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Technical Reports

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UNITED STATES DEPARTMENT OF COMMERCE

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BIBLIOGRAPHY OF

Technical Reports

July 1950

APPAREL

GLOVES AS A FACTOR IN REDUCED DEXTERITY, by Anthony Debons. U. S. Air Force. Arctic Aeronautical Laboratory. Ladd Air Force Base, Alaska. Feb 1950. 6p photos, graph, tables Mi $1.25, Ph $1.25. PB 100918

This study was designed to determine quantitatively the effects of gloves and cold on simple manipulatory activities. Gloves and cold as singular agents did not alter the time requirement significantly in the operation measured. Collectively, however, they increased the time required to complete the operation. Project no. 21-01-018, phase 1, program A: Individual psychological reactions to cold. Tables, graphs, and photos attached.

SEAM FAILURES IN ARMY UNDERWEAR AND CLOTHING, A COMPILATION BASED UPON THE QUARTERMASTER BOARD SALVAGE STUDIES OF 1945-47, S-163: SALVAGE IN THE WESTERN PACIFIC, 15 APR 1946; S-169: CLOTHING FAILURE STUDY OF M-1943 COMBAT UNIFORM, 4 JUN 1947. U. S. Cffice of the Quartermaster General. Military Planning Division. Research and Development Branch. n.d. 14p tables Mimeo: $.50. PB 100361

1. Seams - Tests 2. Clothing - Wearing tests.

CHEMICAL AND ALLIED PRODUCTS

Drugs and Pharmaceuticals

INSTRUCTIONS FOR THE MANUFACTURE OF PHARMACEUTICALS. I. G. Farbenindustrie A. G., Elberfeld, Ger. 1930-1946. 333f (Text in German) Mi $9.00, Enl Pr $45.00. PB 100558

1. Pharmaceuticals - Preparation - Germany 2. Micro BIOS FD 4515/47, Frames 1-331.

Abstract available as PB 100558s. 1p. Mi $1.25, Ph $1.25.

PHARMACOLOGY AND CHEMISTRY OF ADRENOCHROME, by Dr. Peter Marquard Joint Intelligence Objectives Agency. Jun 1949. 16p graphs Mimeo: $.50. PB 974

1. Adrenochrome - Germany 2. FIAT FR 1258.

SOME EXPERIMENTS IN THE THIAZOLINE SERIES, by R. Bentley, J. R. Catch, A. Cook, I. M. Heilbron, G. Shaw. Imperial College of Science, London. Sep 1944. 6p Mi $1.25, Ph $1.25. PB 1008

1. Thiazoline - Derivatives - Preparation - Gt. Brit. 2. Thiazoline - Derivatives - Reactions - Gt. Brit. 3. Penicillamine - Derivatives - Preparation - Gt. Brit. 4. Penicillamine - Derivatives - Reactions - Gt. Brit. 5. CPS 267 6. CMR Br 10

Detergents

DETERGENTS FROM PETROLEUM, by B. H. Weil. Georgia Institute of Technology State Engineering Experiment Station, Atlanta, Ga. May 1948. 8p photos Available from Gerald A. Rosselot, Director, State Engineering Experiment Station, Georgia Institute of Technology, Atlanta, Ga. PB 10065

1. Detergents - Production 2. Petroleum - Uses.

Circular Vol. X, no. 9. Circular no. 22. From Petroleum refiner May 1948.

GLYCERINE RECOVERY USING DIRECT OR INDIRECT METHODS OF PROCESSING FATS IN SOAPMAKING, by John Holmberg. 1949. 26p graphs, tables Mi $2.00, Ph $3.75. PB 1000

The various factors affecting glycerine recovery are dealt with, not only regarding their influence on the yield of glycerine, but also on the economics of the recovery. Also, the influence of these factors on the yield of soap from a unit volume of apparatus, is taken into account. Acta Polytechnica 44 (1949), Chemistry including metallurgy series Vol. 1, nr. 10.

Agricultural Chemicals

CHEMICAL RESEARCH ON INSECTICIDES. REPORTS by Dr. Schrader and Dr. Lorenz. I. G. Farbenindustrie A. G., Elberfeld, Ger. Jul-Aug 1946. 47f (Text in German) Mi $2.50, Enl Pr $7.50. PB 1007

1. Insecticides - Research - Germany 2. Micro BIOS FD 3520/47, Frames 475-51

English abstract included. Abstract available as PB 100769s. 2p. Mi $1.25, Ph $1.25.

CHEMICAL STUDIES ON FUNGICIDES, PT. I: CORRELATION OF STRUCTURE WI FUNGICIDITY, by W. E. Weaver and W. M. Whaley. U. S. Naval Research Laboratory. Jul 1946. 19p photos Mi $1.75, Ph $2.50. PB 1009

1. Fungicides 2. NRL P2877.

PEST CONTROL MATERIALS, 1950 BY D.E.H. FREAR AND M.T. HILBORN. FUNGICIDES, HERBICIDES, INSECTICIDES, RODENTICIDES; COMPANIES, USES AND ACTIVE INGREDIENTS. Pennsylvania. Agricultural Experiment Station, State College, Pa., and others. 1950. 147p Available from Pennsylvania Agricultural Experiment Station, Pennsylvania State College, State College, Pa. PB 1008

This publication is a revision of the first edition which was published in printed form in 1949 (supply exhausted). The revised list includes approximately 4000 products as compared with 2312 for the previous year. Arrangement is alphabetical in three groups: (1) Trade names, (2) Active ingredients (Trade-marked materials), and (3) Companies. The new list not only includes many new products, but includes a number of products which have been changed during the past year as to name or content. Northeast Regional Publication no. 2. Pennsylvania. Agricultural Experiment Station. Progress Report no. 20. Maine. Agricultural Experiment Station. Miscellaneous Publication no. 618.

REPORT OF THE PEST INFESTATION RESEARCH BOARD WITH THE REPORT OF THE DIRECTOR OF PEST INFESTATION RESEARCH FOR THE YEAR 1948. Gt. Brit. Dept. of Scientific and Industrial Research. Pest Infestation Research Board. 1949. 38p photos, diagrs, graph, tables Available from British Information Services, 30 Rockefeller Plaza, New York 20, N. Y. $.30. PB 100852
1. Pest control - Gt. Brit. 2. Insecticides - Evaluation - Gt. Brit. 3. Fumigants - Gt. Brit. 4. DDT - Insecticides - Gt. Brit.

Plastics and Plasticizers

ELEKTRISCHE LEITFÄHIGKEIT WEICHGEMACHTER POLYVINYLCHLORID-MASSEN (ELECTRICAL CONDUCTIVITY OF SOFT MASSES OF POLYVINYL CHLORIDE), by Dr. F. Wuerstlin. I. G. Farbenindustrie A. G., Schkopau, Ger. May 1941. 11f diagrs, table (Text in German) Mi $1.75, Enl Pr $3.75. PB 100569
1. Polyvinyl chloride - Electrical properties - Germany 2. Micro BIOS FD 2331/47, Frames 1-9.
English abstract included. Abstract available as PB 100569s. 2p. Mi $1.25, Ph $1.25.

LABORATORY TEST REPORTS ON MIXTURES OF IGELIT PCU (P.V.C.) AND VARIOUS PLASTICIZERS (PRODUCTS SK 94 TO SK 470). I. G. Farbenindustrie A. G., Schkopau, Ger. 1943-1944. 256f (Text in German) Mi $9.00, Enl Pr $33.75. PB 100827
1. Polyvinyl chloride, Unchlorinated - Plasticizers - Germany 2. SK94-470 (Plasticizers) 3. Igelit PCU (Trade name) 4. Micro BIOS FD 2302/47, Frames 1-254.
English abstract included. Abstract available as PB 100827s. 2p. Mi $1.25, Ph $1.25.

PLASTICS; MACHINING OF. I. U. S. Bureau of Ships. Nov 1946. 6p drawings Available from Office of Technical Services, U. S. Dept. of Commerce, Washington 25, D. C. Mimeo: $.25. PB 99730
1. Plastics - Machining.
Industrial notes no. 58.

PLASTICS; MACHINING OF, II. U. S. Bureau of Ships. Nov 1946. 8p drawings Available from Office of Technical Services, U. S. Dept. of Commerce, Washington 25, D. C. Mimeo: $.25. PB 100861
1. NAVSHIPS IN 59.
For Part I see PB 99730.

PROPERTIES OF DIFFERENT "PALATINOL" AND " ELAOL" PLASTICIZERS. I. G. Farbenindustrie A. G., Ludwigshafen, Ger. 1938-1945. 73f (Text in German)

Mi $3.50, Enl Pr $11.25. PB 100780

1. Elaol (Plasticizer) 2. Palatinols (Plasticizers) 3. Plasticizers - Germany 4. KUTEKO (Kunstoff-Technische Kommission) 5. Micro BIOS FD 1632/49, Frames 1-79.

English abstract included. Page 1 of abstract available as PB 100780s. 1p. Mi $1.25, Ph $1.25.

RESEARCH IN IGELIT PCU (POLYVINYL CHLORIDE) AND RELATED SUBJECTS. I. G. Farbenindustrie A. G., Schkopau, Ger. 1940-1944. 395f (Text in German) Mi $9.00, Enl Pr $52.50. PB 100781

1. Polyvinyl chloride - Research - Germany 2. Igelit PCU (Trade name) 3. Micro BIOS FD 2292/47, Frames 1-388.

English abstract included. Abstract available as PB 100781s. 2p. Mi $1.25, Ph $1.25.

USE OF FLUOROTHENE IN INFRARED AND RAMAN SPECTROSCOPY, by J. S. Kirby-Smith and E. A. Jones. U. S. Atomic Energy Commission, Oak Ridge, Tenn. Feb 1949. 4p drawings, graphs Limited supply mimeo $.05. Also available from U. S. Atomic Energy Commission, Oak Ridge, Tenn. Mimeo: $.05. PB 100553

Outlines some methods of fabricating fluorothene plastic Raman tubes and infrared cells currently being used; brief discussion on infrared transmission of fluorothene; figures. Manuscript has been submitted to the Review of Scientific Instruments for possible publication. AECD 2563.

Paints, Varnishes and Lacquers

DEVELOPMENT OF AN AIR-DRYING SILICONE VARNISH OR LACQUER. Centro Research Laboratories, Inc., Briar Cliff Manor, N. Y. Feb 1947. 23f Mi $2.00, Enl Pr $5.00. PB 100810

A mixture of 180 grm of DC 803, 10 grm methyl methacrylate monomer, 0.1 grm benzoyl peroxide and 100 grm Hi-flash naphtha showed some promise as a basic resin in the formulation of an air-drying silicone or lacquer. A mixture of 150 grm of DC2103, 10 grm methyl methacrylate monomer, 0.1 grm benzoyl peroxide and 100 grm toluol showed considerable flaking indicating a high degree of brittleness. It is assumed that this brittleness may be overcome by the incorporation of plasticizers to impart flexibility and resiliency to the mixture.

DEVELOPMENT OF AN AIR-DRY SILICONE VARNISH OR LACQUER. Centro Research Laboratory, Inc., Briarcliff Manor, N. Y. Mar 1947. 18f tables Mi $1.75, Enl Pr $3.75. PB 100412

The development of an air-dry silicone varnish or lacquer is outlined. The following subjects were investigated: the effect of catalysts on various silicone resins, the copolymerization of various silicone resins with ethyl cellulose, and a survey of the literature of silicones including abstracts of various patents consulted. An attempt to bring about polymerization of the particular resin by incorporation of various types of catalysts was made. Experimental data and results are given. Laboratory report 3, Contract W33-038-ac-16018 (17083).

Analytical Chemistry

BIBLIOGRAPHY: THE ANALYTICAL CHEMISTRY OF BERYLLIUM, by Charles V. Banks, John H. McClure and H. V. Meek. U. S. Atomic Energy Commission, Oak

Ridge, Tenn. Oct 1948. 23p Limited supply mimeo $.10. Also available from U.S. Atomic Energy Commission, Oak Ridge, Tenn. Mimeo: $.10. PB 100580

Bibliography including references to all articles appearing in the literature prior to 1906 as well as those articles abstracted in Chemical Abstracts through June 1948. AECU 10.

MIKROBESTIMMUNG VON AMMONIAK-NITRIT- UND NITRATSTICKSTOFF (MICROCHEMICAL DETERMINATION OF NITROGEN IN AMMONIA, NITRITES, AND NITRATES), by A. Sander. n.d. 13f drawings (Text in German and English) Mi $1.75, Enl Pr $3.75. PB 100760

1. Nitrogen - Detection - Germany 2. Ammonia - Analysis - Germany 3. Nitrates - Analysis - Germany 4. Nitrites - Analysis - Germany 5. Micro GDC 1045T 6. Micro RTP T634 7. Micro BIOS FD 496/48, Frames 1-12.

Chemical Engineering and Equipment

ÄTHYLENDIISOCYANAT O-C-N, CH_2, CH_2 NCO NACH NUSSHAG DISSERTATION BERLIN 1913. (TABLE OF DI- AND POLYISOCYANATES). I. G. Farbenindustrie A. G., Leverkusen, Ger. Oct 1946. 15f tables (Text in German) Mi $1.75, Enl Pr $3.75 PB 100763

1. Isocyanates, Di - Germany 2. Isocyanates, Poly - Germany 3. Micro BIOS FD 1416/49, Frames 6-19.

English abstract included. Abstract available as PB 100763s. 1p. Mi $1.25, Ph $1.25. Laboratory instruction and English translation for preparation of ethylene diisocyanate, mentioned in abstract, not included on film.

MANUFACTURE OF SULPHURIC ACID, HENKEL & CIE G.M.B.H., DÜSSELDORF-HOLTHAUSEN, by F. Heppenstall and others. n.d. 13p photos, diagrs Mi $1.75, Ph $2.50. PB 97542

1. Sulfuric acid - Production - Germany 2. BIOS FR 1637 Item no. 22.

PREPARATION OF ZIRCONIA GEL, AND OF PURE CHLOROHYDRIN FROM ETHYLENE CHLOROHYDRIN SOLUTION. I. G. Farbenindustrie A. G., Oppau, Ger. Feb 1940. 10f diagrs (Text in German) Mi $1.25, Enl Pr $2.50. PB 100557

1. Zirconium oxide - Production - Germany 2. Chlorohydrin - Production - Germany 3. Micro BIOS FD 836/48, Frames 300000010-300000018.

English abstract included. Abstract available as PB 100557s. 1p. Mi $1.25, Ph $1.25.

PROCESS INSTRUCTIONS AND FLOW SHEETS FOR SOLVENTS AND SOFTENERS. Chemische Werke Hüls, G.m.b.H., Marl, Ger. 1946. 50f (Text in German and English) Mi $2.50, Enl Pr $7.50. PB 100648

1. Softening agents - Production - Germany 2. Solvents - Production - Germany 3. BIOS FR 1652 LD 4. Micro BIOS FD 5128/47, Frames 1-46.

English abstract included. Abstract available as PB 100648s. 1p. Mi $1.25, Ph $1.25. Listed in BIOS FR 1652, p. 61.

PROCESSES AND MACHINERY FOR SULPHUR DIOXIDE CONCENTRATION, SULPHUR REDUCTION, THE WORKING UP OF ANHYDRITE IN THE MANUFACTURE OF CEMENT AND SULPHUROUS CHEMICALS, AND FOR THE SMELTING AND CELLULOSE INDUSTRIES. Lurgi Gesellschaft für Chemie und Hüttenwesen m.b.H.,

Frankfurt am Main, Ger. 1935-1946. 205f photos, drawings, graphs (Text in German) Mi $7.00, Enl Pr $27.50. PB 100766

1. Sulfidin (Trade name) 2. Sulfur dioxide - Plan operation - Germany 3. Sulfur dioxide - Production - Germany 4. Sulfur compounds - Organic - Production - Germany 5. Anhydrite - Derivatives - Production - Germany 6. Micro BIOS FD 1366/49, Frames 1-203.

English abstract included. Abstract available as PB 100766s. 2p. Mi $1.25, Ph $1.25.

REPORTS ON VARIOUS PROCESSES OF DISTILLING CRUDE FATTY ACIDS. I. G. Farbenindustrie A. G., Oppau, Ger. 1930-1938. 79f drawings, tables (Text in German) Mi $3.50, Enl Pr $11.25. PB 100764

1. Fatty acids - Distillation - Germany 2. Micro BIOS FD 1472/49, Frames 1-76.

English abstract included. Abstract available as PB 100764s. 2p. Mi $1.25, Ph $1.25.

Miscellaneous Chemicals

BIBLIOGRAPHY ON THE SOLUBILITY OF ARGON, CARBON DIOXIDE, HELIUM AND NITROGEN IN ORGANIC LIQUIDS, by Fred E. Croxton. U. S. Atomic Energy Commission, Oak Ridge, Tenn. Jan 1949. 51p Limited supply mimeo $.20. Also available from U. S. Atomic Energy Commission, Oak Ridge, Tenn. Mimeo: $.20. PB 100583

137 references located from easily accessible reference works and indices covering the period 1907-1947; arrangement is by authors with subject and reference indices included. AECU 100. MDDC K 339.

CLEANING AND SPOTTING MATERIAL FOR PARACHUTES, by Violet B. Hanes. U. S. Air Materiel Command. Engineering Div., Materials Laboratory, Wright Field, Dayton, Ohio. May 1946. 46f graphs, tables Mi $2.50, Enl Pr $7.50. PB 100419

An investigation was undertaken to determine whether various cleaning and spotting materials may be used on parachutes fabrics without resultant deterioration of the fabrics. The following cleaners are considered satisfactory for the use in cleaning and spotting of nylon parachutes in the field; (1) Wet Spotter (2) Cyclo (3) Picrin (4) Hydrazene (5) Burmol (6) Grass Stain Remover, consisting of 1 1/2 oz of 26% Ammonia 4 oz Orvus, 1 qt. water. For silk parachutes; (1) Wet Spotter (2) Digestal (3) Cyclo and Picrin (1 to 1 and 1 to 2) (4) Cyclo (5) Picrin (6) Hydrazene (7) 1 part Kleen, 2 parts Stoddard Solvent (8) Grass Stain Remover (9) oleic acid. For the use on rayon Parachutes; (1) R S R (2) Digestal (3) Picrin (4) Burmol. For cotton cloth (1) R S R (2) Digestal (3) Hydrazene (4) Picrin (5) Burmol (6) Grass Stain Remover and (7) Oxidized Oil Remover, consisting of 1 part Oleic acid, 2 parts Benzol and 2 parts Carbon Tetrachloride. AAF TSEAM M5237.

CONTAINER COATINGS: AN ABSTRACT BIBLIOGRAPHY, COMPILED by Francis D. Horigan and Cary R. Sage. U. S. Office of the Quartermaster General. Military Planning Division. Research and Development Laboratories. Technical Library. Mar 1950. 44p Mimeo: $1.25. PB 100864

1. Containers - Coatings - Bibliography 2. Containers - Coatings - Patents 5. QMC TL BS 12.

DETERMINATION OF THE HALF-LIFE OF CARBON FOURTEEN, by W. M. Jones. U. S. Atomic Energy Commission. Los Alamos Scientific Laboratory. n.d.

15p diagr, graph, tables Limited supply mimeo $.10. Also available from U. S. Atomic Energy Commission, Oak Ridge, Tenn. Mimeo: $.10. PB 100587

Procedure and results for a method consisting in general of mass spectrometric analysis of C^{14} enriched CO_2, the dilution of a portion of this material in a known way, and counting of part of the diluted material in a G-M counter of known effective volume; preparation of the enriched sample described; figures; references. Manuscript has been submitted to the Physical Review for possible publication. AECU 365. MDDC LADC 680.

KONTINUIERLICHE EMULGATOR-1000 HERSTELLUNG (CONTINUOUS PRODUCTION OF EMULGATOR 1000), by Dr. Buschmann. I. G. Farbenindustrie A. G., Schkopau, Ger. Jul 1944. 7f diagr (Text in German and English) Mi $1.25, Enl Pr $2.50. PB 100808

1. Emulgator 1000 (Emulsifying agent) 2. Emulsifying agents - Production - Germany 3. Naphthalenesulfonic acid, Dibutyl - Production - Germany.

For description of plant see PB 63272.

PREPARATION OF LUMINAL. Merck, E., Darmstadt, Ger. 1947. 7f (Text in German) Mi $1.25, Enl Pr $2.50. PB 100762

1. Phenobarbital - Preparation - Germany 2. Luminal (Trade name) 3. Micro BIOS FD 1397/49, Frames 1-6.

English abstract included. Abstract available as PB 100762s. 1p. Mi $1.25, Ph $1.25.

SOLUBILITY OF WATER IN PERFLUORODIMETHYLCYCLOHEXANES AS A FUNCTION OF TEMPERATURE, by James L. Gabbard, E. S. Amis and J. H. Jamieson. U. S. Atomic Energy Commission, Oak Ridge, Tenn. Jul 1948. 7p drawing, graph, tables Limited supply mimeo $.10. Also available from U. S. Atomic Energy Commission, Oak Ridge, Tenn. Mimeo: $.10. PB 100549

Experimental determinations at ten degree intervals from 15 to 85°C; procedure and apparatus described; empirical equation for solubility derived by method of least squares and calculated values compared with experimental data; tables and figures. AECD 2337.

SYNTHESIS OF DL-PHENYLALANINE-β-C^{14}, by James C. Reid. U. S. Atomic Energy Commission, Oak Ridge, Tenn. Mar 1949. 7p table Limited supply mimeo $.05. Also available from U. S. Atomic Energy Commission, Oak Ridge, Tenn. Mimeo: $.05. PB 100878

Detailed description of laboratory synthesis; carboxyllabeled benzoic acid is reduced to benzylalcohol with lithium aluminum hydride, which after chlorination with $SOCl_2$ is condensed with acetylaminomalonic ester and the product hydrolyzed and decarboxylated; 40% overall yield; several alternate methods discussed. AECU 216. MDDC UCRL 320.

ÜBER DIE KONSTITUTION DER ALDOL-ACETALDEHYDEVERBINDUNG (CONSTITUTION OF THE ALDOL-ACETALDEHYDE COMPOUND), by Hanschke. I. G. Farbenindustrie A. G., Schkopau, Ger. Nov 1941. 8f (Text in German and English) Mi $1.25, Enl Pr $2.50. PB 100813

The combined portion of aldol-acetaldehyde was determined by heating with dilute H_2SO_4, so that the quantity of the free and combined acetaldehyde was obtained. In working up the crude aldol acetate, which boils uniformly, no aldol acetate could be

determined, indicating that, in crude aldol, the total aldol is present as the acetaldehyde hemiacetal. This material corresponds to 76% of the total product, 21% being free acetaldehyde and the rest secondary reaction products.

ÜBER SAURE PHOSPHATE DES THORIUMS (ON ACID PHOSPHATES OF THORIUM), by J. D'Ans and W. Dawihl. Oct 1927. 7f graphs (Text in German) Mi $1.25, Enl Pr $2.50. PB 100649

1. Thorium compounds - Analysis - Germany 2. BIOS FR 925 LD 3. Micro BIOS HEC 11504 4. Micro BIOS FD 4002/47, Frames 1-6.

Reprinted from Zeitschrift für anorganische und allgemeine chemie, v. 178, 1928, p. 252-256. English abstract included. Abstract available as PB 100649s. 1p. Mi $1.25, Ph $1.25. Listed in BIOS FR 925 appx. I. p. 50.

ELECTRICAL MACHINERY, EQUIPMENT AND SUPPLIES

Communication Equipment

EVALUATION OF DIVERSITY SYSTEMS. PART 2. ANALYSIS OF DIVERSITY METHODS FOR GROUND TO AIR COMMUNICATION. FINAL REPORT, by H. P. Gates. U. S. Navy. Electronics Laboratory, San Diego, Calif. Oct 1948. 19p diagrs Mi $1.75, Ph $2.50. PB 100501

Analysis concludes that two-channel polarization and height diversity operations reduce cones of silence and increase coverage of zenith angles in UHF range over perfect earth. NELS R 80.

MULTIPATH PHENOMENA AND THEIR EFFECT ON COMMUNICATION SYSTEMS, BY ANDREW ALFORD. ALFORD, ANDREW, CONSULTING EINGINEERS, BOSTON MASS. REPORT NO. 2 UNDER CONTRACT W19-122-AC-27. Feb 1949. 43p drawings, diagrs, graphs Mi $2.50, Ph $6.25. PB 100636

1. Radio interference - Research 2. Radio transmission, Multichannel 3. Communication systems.

Electronics

BERECHNUNG VON VERSTÄRKERN FÜR STOSSPANNUNGEN BEI ZEITMESSUNGEN MIT GROSSEN GENAUIGKEITSFORDERUNGEN (MATHEMATICAL BASIS OF VOLTAGE PULSE AMPLIFIERS), by H. W. Breuninger. Germany. Reichsstelle für Hochfrequenz Forschung, Landsberg, Ger. Mar 1944. 59p diagrs, graphs, tables Mi $2.75, Ph $7.50. PB 100807

A mathematical basis is given for a new method of pulse measurement. The pulse to be amplified for measurement is frequently of triangular shape, in which case the pulse peak is measured. It is suggested that rather than determining time by measuring the pulse peak, the time is determined by means of a pulse start. This method of measurement is intended especially for cases where accuracy (of the order of 10^{-7} seconds) is required. The approximate limit of requirements which can be satisfied is shown. AAF T-2 T/5579.

BERICHT ÜBER ARBEITEN DER SIEMENS-SCHUCKERTWERKE A. G. AUF DEM GEBIETE DER ANWENDUNG VON ULTRASCHALL IN DER INDUSTRIE (REPORT

ON THE WORK OF SIEMENS-SCHUCKERTWERKE A. G. ON THE USE OF ULTRASONICS IN INDUSTRY). Siemens-Schuckertwerke A. G., Berlin. Oct 1946. 20f (Text in German) Mi $1.75, Enl Pr $3.75. PB 100836
1. Ultrasonics - Research - Germany 2. Micro BIOS FD 4941/47, Frames 1-20.

CONSTANT-FREQUENCY CHARACTERISTICS OF A DUAL-FEED-BACK-PATH BRIDGE OSCILLATOR, by James M. Headrick. U. S. Naval Research Laboratory, Washington, D. C. Mar 1949. 20p diagrs, graphs Mi $1.75, Ph $2.50. PB 100631
A theoretical and experimental analysis of the constant-frequency characteristics of a transformerless, dual-path bridge, feedback oscillator circuit is outlined. Its frequency stability is found to compare favorable with that of a single-feedback-path bridge oscillator, one of the most stable known, and use of the circuit is indicated wherever its form factor offers advantages. The circuit lends itself to operation of a wide frequency range using either fixed or variable frequency-controlling elements. NRL R3428.

DESIGN AND APPLICATION OF A LOGARITHMIC AMPLIFIER, by C. W. Johnstone. U. S. Atomic Energy Commission. Los Alamos Scientific Laboratory. n.d. 4p Limited supply mimeo $.05. Also available from U. S. Atomic Energy Commission, Oak Ridge, Tenn. Mimeo: $.05. PB 100585
Discusses application in connection with nuclear reactors used for research purposes; discusses design of the amplifier and the diode chosen as the logarithmic element. AECU 363. MDDC LADC 668.

DIELECTRIC ANTENNAS, REPORT 2, CONTRACT W-33-038-AC-7677. Pennsylvania State College. School of Chemistry and Physics. Wind Tunnel Laboratory. Mar 1946. 28p diagrs, graphs Mi $2.00, Ph $3.75. PB 100634
This progress report describes the continuation of work on dielectric covered antennas. Six additional antennas mounted flush with the ground plane were tested. The results of these tests together with comparison tests on a thin wire and disc top loaded rod are presented in the form of graphs. Brief comparison are made to indicate in which direction further development might proceed. Report no. WFW-44.

DIFFICULTIES EXPERIENCED AT THE POST OFFICE FACTORY IN THE BULK PRODUCTION OF CRYSTALS FOR THE WIRELESS SET NO. 78. INTERIM REPORT, by D. B. Fletcher. Gt. Brit. Ministry of Supply. Signals Research and Development Establishment. Christchurch, Hants, Eng. Apr 1946. 31p diagrs, graphs Mi $2.25, Ph $5.00. PB 100637
An investigation was made of the manufacture of miniature crystals (2 Mc/s) for the wireless set No. 78 which would meet activity/temperature specification. Blanks produced to dimensions by routine P.O. methods, became satisfactory crystals when surface lapped to the specified frequency with dry abrasive. Finishing crystals to nominal frequency by etching is probably satisfactory if the required increase in frequency due to etching is not more than 1.5 kc/s. If etching is prolonged there is a tendency for the temperature band to shorten or break-up. Rounding corners of a blank which has already been predimensioned breaks up the temperature band.

ELECTROMAGNETIC THEORY APPLIED TO RADIATION PROBLEMS, INTERIM REPORT FOR THE PERIOD JUL 1 TO JUL 31, 1948. RADIATION FROM SLOTS, by Nathan Marcuvitz. Polytechnic Institute of Brooklyn. Microwave Research Institute, Brooklyn, N. Y. Sep 1948. 13f graphs, tables Mi $1.75, Enl Pr $3.75. PB 100425

An interim report is submitted on the development of electromagnetic theory for application to radiation problems. Measurements of the admittance of slots terminating a rectangular guide and radiating into a half space have been completed. Work has begun on the preliminary measurements of the admittance of a radiating slot in the top wall of a rectangular guide. For the case of thin slots less than a half wavelength, the measured results agree reasonably well with theoretical values. The variational calculations of the admittance of small radiating slots in an infinite plate of zero thickness terminating a rectangular guide were extended to treat the case of finite plate thickness. The values of terminal conductance and terminal susceptance are compared with the zero thickness results. Contract WLENG-W-28-099-ac-146. PIB 117.3.

HF COMMUNICATIONS DEVELOPMENT PROGRAM, by H. L. Campbell and others. Radio Corporation of America. RCA Victor Div., Camden, N. J. Jun 1947. 301f photos, diagrs, graphs, tables Mi $9.00, Enl Pr $41.25. PB 100432

In an HF communication development program, consideration was given to feeding all parts of an aircraft as an antenna for the frequency range 2 to 25 mc. The wing was found to offer the best radiation pattern and impedance characteristics. Methods of automatically tuning and loading a transmitter were investigated. An extensive study was made of power output indicators. A non-linear current meter using oxide elements so arranged as to produce a logarithmic scale is recommended for MHF aircraft transmitters. An HF radio communication system was developed for the 2 to 25 mc range which has 10 remotely selectable channels, transmission and reception on the same frequency, and a high order of frequency stability.

INTERMEDIATE-FREQUENCY AMPLIFIERS WITH IDENTICAL PHASE, GAIN, AND FREQUENCY CHARACTERISTICS, BY F. E. BROOKS, JR. AND C. W. TOLBERT. TEXAS. UNIVERSITY, ELECTRICAL ENGINEERING RESEARCH LABORATORY, AUSTIN, TEX. CONTRACT N5-ORI-136, TASK ORDER 1. Jul 1948. 12p diagrs Mi $1.75, Ph $2.50. PB 100633

A description is given of an IF amplifier operating at 30 megacycles whose phase shift and gain characteristics are adjustable. Three of the amplifiers may be so adjusted that a change in input frequency over the entire band-pass of the amplifiers or a change in input signal strength of 60 db will produce a difference in phase shift between the three of less than three degrees, and a difference in output of less than 2 db. Memorandum no. 8.

METHODS AND TECHNIQUES LEADING TO THE DEVELOPMENT OF MEASURING DEVICES IN THE INFRARED SPECTRAL BAND FROM 25 TO 400 MICRONS. INTERIM ENGINEERING REPORT FOR PERIOD DEC 8, 1946 TO JAN 7, 1947, by Harold H. Nielsen and Robert A. Oetjen. Ohio State University Research Foundation, Columbus, Ohio. Jan 1947. 7f Mi $1.25, Enl Pr $2.50. PB 100668

1. Infrared - Research 2. Infrared detection 3. Spectrographs, Infrared.

Contract W-33-038-ac-15407, Project 275, Report 5. See also PB 100662-100667, 100669-100679, 100686s-s2.

METHODS AND TECHNIQUES LEADING TO THE DEVELOPMENT OF MEASURING DEVICES IN THE INFRARED SPECTRAL BAND FROM 25 TO 400 MICRONS. INTERIM ENGINEERING REPORT FOR PERIOD JAN 8, 1946 TO MAR 7, 1947, by Harold H. Nielsen and Robert A. Oetjen. Ohio State University Research Foundation, Columbus, Ohio. Apr 1947. 17f diagrs Mi $1.75, Enl Pr $3.75. PB 100669

1. Infrared - Research 2. Infrared detection 3. Spectrographs, Infrared.
Contract W-33-038-ac-15407, Project 272, Report 6. See also PB 100662-100668, 100670-100679, 100686s-s2.

METHODS AND TECHNIQUES LEADING TO THE DEVELOPMENT OF MEASURING DEVICES IN THE INFRARED SPECTRAL BAND FROM 25 TO 400 MICRONS. INTERIM ENGINEERING REPORT FOR PERIOD MAR 8 TO MAY 7, 1947, by Harold H. Nielsen and Robert A. Oetjen. Ohio State University Research Foundation, Columbus, Ohio. May 1947. 7f Mi $1.25, Enl Pr $2.50. PB 100670
1. Infrared - Research 2. Infrared detection 3. Spectrographs, Infrared.
Contract W-33-038-ac-15407, Project 275, Report 7. See also PB 100662-100669, 100671-100679, 100686s-s2.

METHODS AND TECHNIQUES LEADING TO THE DEVELOPMENT OF MEASURING DEVICES ON THE INFRARED SPECTRAL BAND FROM 25 TO 400 MICRONS. INTERIM ENGINEERING REPORT FOR PERIOD MAY 8 TO JUL 7, 1947, by Harold H. Nielsen and Robert A. Oetjen. Ohio State University Research Foundation, Columbus, Ohio. Aug 1947. 10f diagrs Mi $1.25, Enl Pr $2.50. PB 100671
1. Infrared - Research 2. Infrared detection 3. Spectrographs, Infrared.
Contract W-33-038-ac-15407, Project 275, Report 8. See also PB 100662-100670, 100672-100679, 100686s-s2.

METHODS AND TECHNIQUES LEADING TO THE DEVELOPMENT OF MEASURING DEVICES IN THE INFRARED SPECTRAL BAND OF 25 TO 400 MICRONS. INTERIM ENGINEERING REPORT FOR PERIOD MAR 8 TO MAY 7, 1948, by Harold H. Nielsen and Robert A. Oetjen. Ohio State University Research Foundation, Columbus, Ohio. May 1948. 7f Mi $1.25, Enl Pr $2.50. PB 100676
1. Infrared - Research 2. Infrared detection 3. Spectrographs, Infrared.
Contract W-33-038-ac-15407, Project 275, Report 13. See also PB 100662-100675, 100677-100679, 100686s-s2.

METHODS AND TECHNIQUES LEADING TO THE DEVELOPMENT OF MEASURING DEVICES IN THE INFRARED SPECTRAL BAND OF 25 TO 400 MICRONS. RECORDING SPECTROMETER FOR THE FAR INFRARED SPECTRAL REGION, A THESIS by William H. Haynie. Ohio State University Research Foundation, Columbus, Ohio. Jun 1948. 51f photos, diagrs, tables Mi $2.75, Enl Pr $8.75. PB 100686s
1. Spectrometers, Infrared.
Contract W-33-038-ac-15407, Project 275, suppl. A to Report 14. See also PB 100662-100679, 100686s2.

METHODS AND TECHNIQUES LEADING TO THE DEVELOPMENT OF MEASURING DEVICES IN THE INFRARED SPECTRAL BAND OF 25 TO 400 MICRONS. DESIGN AND CONSTRUCTION OF A LOW NOISE AMPLIFIER, by Harry Richard Jurman. Ohio State University Research Foundation, Columbus, Ohio. Aug 1948. 92f diagrs, graphs, tables Mi $4.25, Enl Pr $13.75. PB 100686s2
1. Amplifiers, Noise.
Contract W-33-038-ac-15407, Project 275, suppl. B to Report 14. See also PB 100662-100679, 100686s.

METHODS AND TECHNIQUES LEADING TO THE DEVELOPMENT OF MEASURING DEVICES IN THE INFRARED SPECTRAL BAND OF 25 TO 400 MICRONS. INTERIM

ENGINEERING REPORT FOR PERIOD JUL 8 TO SEP 7, 1948, by Harold H. Nielsen and Robert A. Oetjen. Ohio State University Research Foundation, Columbus, Ohio. Oct 1948. 11f diagrs Mi $1.75, Enl Pr $3.75. PB 100677

1. Infrared - Research 2. Infrared detection 3. Spectrographs, Infrared.

Contract W-33-038-ac-15407, Project 275, Report 15. See also PB 100662-100676, 100678-100679, 100686-s2.

METHODS AND TECHNIQUES LEADING TO THE DEVELOPMENT OF MEASURING DEVICES IN THE INFRARED SPECTRAL BAND OF 25 TO 400 MICRONS. INTERIM ENGINEERING REPORT FOR PERIOD SEP 8 TO NOV 7, 1948, by Harold H. Nielsen and Robert A. Oetjen. Ohio State University Research Foundation, Columbus, Ohio. Nov 1948. 9f Mi $1.25, Enl Pr $2.50. PB 100678

1. Infrared - Research 2. Infrared detection 3. Spectrographs, Infrared.

Contract W-33-038-ac-15407, Project 275, Report 16. See also PB 100662-PB 100677, PB 100679, 100686s-s2.

METHODS AND TECHNIQUES LEADING TO THE DEVELOPMENT OF MEASURING DEVICES IN THE INFRARED SPECTRAL BAND FROM 25 TO 400 MICRONS. INTERIM ENGINEERING REPORT FOR PERIOD JAN 8 TO MAR 7, 1949, by Harold H. Nielsen and Robert A. Oetjen. Ohio State University Research Foundation, Columbus, Ohio. Mar 1949. 4p Mi $1.25, Ph $1.25. PB 100663

1. Infrared - Research 2. Infrared detection 3. Spectrographs, Infrared.

Contract W-33-038-ac-15407, Project 275, Report 18 may not reproduce well. See also PB 100662, 100664-100679, 100686s-s2.

MICROWAVE BREAKDOWN OF A GAS IN A CYLINDRICAL CAVITY OF ARBITRARY LENGTH, by Melvin Herlin and Sanborn C. Brown. Massachusetts Institute of Technology. Research Laboratory of Electronics, Cambridge, Mass. Jul 1948. 15f diagr, graphs, table Mi $1.75, Enl Pr $3.75. PB 100406

A discussion is presented on microwave breakdown of a gas in a cylindrical cavity of arbitrary length. Investigation was conducted in particular to determine the corrections to be made when the length is increased. Numerical results are given for cavities whose ratios of radius to length are as low as 0.5, and the method is applicable to any cylindrical cavity. The breakdown data in these longer cavities are used to extend the high frequency ionization coefficient curves for air by a factor of ten. Contract W-36-039-ac-32037. MIT RLE TR77.

NATURAL BEHAVIOR OF BROADBAND CIRCUITS, by William H. Huggins. U. S. Air Materiel Command. Electronics Research Laboratories, Cambridge, Mass. May 1948. 40p diagrs, graphs Mi $2.25, Ph $5.00. PB 100635

The phenomena of multipath transmission as it effects frequency modulated radio signals was investigated. The major portion of the investigation deals with the types of phenomena which are encountered in communication between two flying aircraft. Mathematical expressions are derived for the interference between two frequencies, the interference between two frequency modulated signals, analysis of instantaneous phase of frequency modulated signals, and instantaneous frequency of the resultant of two frequency modulated signals arriving via two paths of different lengths. Graphs and vector diagrams are included. Presented at the RCM Symposium, Nov 1947. AAF ERL E 5013.

RESISTANCE-CAPACITANCE NETWORKS, by Carl R. Wischmeyer. Massachusetts Institute of Technology. Radiation Laboratory, Cambridge, Mass. Sep 1942. 15p

diagrs, graphs Mi $1.75, Ph $2.50. PB 100393

An easy means is given for determining the steady-state electrical characteristics of several symmetrical networks consisting of resistors and condensors. The networks considered are the ladder type and lattice. Curves are given showing the variation of characteristic impedance in magnitude and phase for T- and Pi-sections, the attenuation, and the phase shift with this ratio. It is shown that a maximum phase shift of 90° is attainable with these sections. Expressions which are derived for these quantities are given along with an analysis of the results obtained. MIT Rad Lab 91-2. Report # 379

STATUS OF TRANSISTOR AND CRYSTAL RECTIFIER THEORY AND DEVELOPMENT, by J. H. Simpson. National Research Council of Canada. Radio and Electrical Engineering Division. Laboratories. Oct 1949. 37p diagrs, graphs Mi $2.25, Ph $5.00. Also available from National Research Council of Canada, Ottawa $.25. PB 100754

The published literature on crystal rectifiers and amplifiers is reviewed in order to furnish as coherent a picture as possible of the present position with regard to research and development. Brief theoretical discussions are included. NRCC 2023.

STREAMLINED AIRBORNE ANTENNAS, INTERIM ENGINEERING REPORT PERIOD 15 SEP TO 15 DEC 1948, REPORT NO. 18-2 ON CONTRACT W-19-122-AC-18, by Martin N. Chase. Illinois. University, Antenna Laboratory, Urbana, Ill. Jan 1949. 9p photo Mi $1.25, Ph $1.25. PB 100638

An interim engineering report is presented on the development of streamlined airborne antennas. During this research period the experimental work has followed two main lines. The first of these was an attempt to measure the impedance of a slot in an infinite plane. The other line of attack consists of a series of measurements made on a rectangular slot with a rectangular backing cavity of the same cross section dimensions as those of the slot. This is the so called "waveguide-fed slot" and the effect on the impedance characteristics of this type of antenna, of variations in the cavity depth, feed position and type of coaxial line-to-waveguide transition used have been measured.

THE 30-KILOCYCLE TO 10-MEGACYCLE OSCILLATOR, by J. Schench. U. S. National Defense Research Committee. Oct 1945. 24f photos, diagrs, graphs Mi $2.00, Enl Pr $5.00. PB 100407

A description is presented of the 30-kilocycle to 10-megacycle oscillator which is a variable-frequency laboratory oscillator designed to obtain acceptably accurate measurements of the gain, amplitude, and phase response of four-terminal electrical networks. Preliminary investigations were made of the Hartley, electron-coupled, dynatron, transitron, and the beat-frequency types of oscillators. The functions of the automatic amplitude control and the cathode follower are outlined. The amplitude for a given setting remains practically constant as the frequency changes. OSRD 6232.

UNTERSUCHUNGEN ÜBER EIN DEMODULATIONSVERFAHREN FÜR FREQUENZ-MODULIERTE SCHWINGUNGEN (DEMODULATION OF FREQUENCY-MODULATED OSCILLATIONS), by Walter Storck. Sep 1941. 53p diagrs, graphs (Text in German and English) Mi $2.75, Ph $7.50. PB 100390

A method for demodulating frequency modulated oscillations is presented which differs from the accepted methods by avoiding transformation from frequency modu-

lation to amplitude modulation. A mathematical treatment is included showing the comparison of phase of two alternating current voltages and of synchronizing one transmitter with the frequency of another. The treatment is confined to the process taking place after both have reached the same frequency. Experiments were conducted with a receiver which was constructed to illustrate the principles involved. Institut für Schwingungsforschung, Berlin. Forschungsbericht nr. 1942. AAF T-2 T/4879. ZWB FB 1492.

VISIT TO CHEM. WERKE ALBERT, WIESBADEN-BIEBRICH, by F. J. Kerkhof. Netherlands Military Mission. Technical Research. Oct 1946. 4p Mi $1.25, Ph $1.25. PB 100793

Contains the following information: (a) determination of acid number of synthetic resins, (b) production of diane, (c) heating systems, and (d) methods of inspecting and testing raw materials. TOR 7.

Miscellaneous

CADMIUM PLATING. U. S. Office of Technical Services. Jan 1950. 4p Available from Office of Technical Services, U. S. Dept. of Commerce, Washington 25, D. C. Mimeo: $.10. PB 100226

1. Cadmium - Electroplating.

DESIGN AND CONSTRUCTION OF WIDE-BAND EQUALIZERS FOR A COAXIAL CABLE, by R.F.J. Jarvis, G. H. Fogg, C. F. Davidson. Gt. Brit. General Post Office. Radio Branch Laboratories, Wembley, Eng. Dec 1939. 22p diagrs, graphs, tables Mi $2.00, Ph $3.75. PB 100630

A brief description is given of the design and construction of equalizers to operate in conjunction with two repeater sections of the London-Birmingham coaxial cable. The equalizers are operative over a frequency range of about 150 kc/s to 6 Mc/s and provision is made for adjustment of the amount of effective equalization to correspond with changes in the cable attenuation caused by temperature variations. It was shown that the equalizers are perfectly satisfactory for the purpose for which they were designed. It was pointed out that the cost of any future equalizers of this type can be reduced by omitting the screens between sections. Radio report no. 619. Case no. 2315.

HIGH POWER COAXIAL RADIO FREQUENCY CABLE. INTERIM ENGINEERING REPORT ON CONTRACT W-33-038-AC-20949, MONTH OF FEB 1949. PROGRESS REPORT NO. 6, by H. G. Nordlin. Federal Telecommunications Laboratories, Inc., Nutley, N. J. Mar 1949. 10p Mi $1.25, Ph $1.25. PB 100632

Attenuation measurements at 3000 megacycles were made on three cable samples to 150 degrees centigrade; attenuation was found to be less than 10 db per 100 ft. Measurements made on samples of Teflon tape showed that the dissipation factor was too high for use in this development. Measurements of 3000 megacycle resistance were made on rods, copper plated and silver plated on copper, over a period of 450 hours exposure at 150 degrees centigrade. It was concluded that silver plating of the conductors is essential for good attenuation stability.

IMPROVEMENT OF CARBON ELECTRODES, by Goro Yamaguchi. Jun 1942. 36f photos, diagrs, graphs, tables (Text in Japanese) Mi $2.25, Enl Pr $6.25. PB 100427

Research on impure carbon electrodes was undertaken to develop a superior electrode for use in spectroanalysis of whetting materials. The higher the temperature for the heat treatment of these electrodes, the better the results obtained; temperatures of 2,500°C to 2,800°C are considered ideal. The amount of impurities in the untreated electrodes should be as small as possible because these impurities form fixed carbides at high temperatures in the early part of the heat treatment. Jap/2564. Digest in English.

STUDIES OF TIME-POTENTIAL CHANGES ON AN ELECTRODE SURFACE DURING CURRENT INTERRUPTION. PART I. ZINC-STEEL COUPLE IN SYNTHETIC SEA WATER, by Sigmund Schuldiner and Roger E. White. U. S. Naval Research Laboratory, Bellevue, D. C. Oct 1949. 31p photos, diagrs, graphs, tables Mi $2.25, Ph $5.00. PB 100753

A d-c current interrupter method has been developed for oscilloscope studies of time-potential changes at an electrode surface during short interruption intervals. A square pulse with a very short rise time was used to interrupt the current flow in a cell. An initial study of polarization phenomena on the zinc anode-steel cathode system in a synthetic sea water electrolyte was carried out using this new interrupter method. NRL R 3548.

TORCH APPLICATIONS. U. S. Navy Dept. Office of Procurement and Material. Jan 1945. 2p Available from Office of Technical Services, U. S. Dept. of Commerce, Washington 25, D. C. Mimeo: $.10. PB 99713

1. Welding - Methods 2. NAVSHIPS IN 32.

FOOD AND KINDRED PRODUCTS

AMC CONFERENCE ON IN-FLIGHT FEEDING, 2-3 MAY 1949, by John A. Frantz. U. S. Air Materiel Command. Engineering Div. Aero-Medical Laboratory, Wright Field, Dayton, Ohio. Jun 1949. 19p Mi $1.75, Ph $2.50. PB 99081

1. Food rations, In-flight 2. APGC Proj. 34936-5 3. AAF TSEAA MR 691-213.

Appendix V is Evaluation of the operational suitability of the Maxson food system, by Caswell Grave II (APGC Proj 34936-5).

STUDY OF IN-FLIGHT MEALS AND EQUIPMENT FOR THEIR PREPARATION, by Caswell Grave. U. S. Air Proving Ground, Eglin Air Force Base, Fla. Jul 1949. 54p photos Mi $2.75, Ph $7.50. PB 99082

1. Food rations, In-flight 2. Food, Frozen - Pre-cooked 3. APGC Proj 34784-5.

FUELS AND LUBRICANTS

COOLANTS. U. S. Bureau of Ships. Dec 1945. 4p Available from Office of Technical Services, U. S. Dept. of Commerce, Washington 25, D. C. Mimeo: $.10. PB 99719

1. Coolants 2. NAVSHIPS IN 45.

Industrial notes no. 45. Contains supplement no. 1 to Industrial notes no. 45.

DETAILS OF AN OIL CIRCULATION PROCESS FOR THE PRODUCTION OF PETROL AND SOFT WAX. I. G. Farbenindustrie A. G., Ludwigshafen, Ger. 1937-1944. 595f

drawings, tables (Text in German) Mi $9.00, Enl Pr $78.75. PB 100828
1. Oil fuel - Production - Germany 2. Petroleum - Production - Germany 3. Waxes, Synthetic - Production - Germany 4. Micro BIOS FD 1588/48, Frames 1-594. English abstract included.

DOMESTIC HEATING BY SOLID FUEL. Gt. Brit. Dept. of Scientific and Industrial Research. Building Research Station, Watford, Eng. 1950. 6p drawings, table Available from British Information Services, 30 Rockefeller Plaza, New York 20, N. Y. $.10. PB 100897
1. Houses - Heating - Gt. Brit. 2. Fuels, Solid - Gt. Brit. 3. DSIR BRD 16.

EQUIPMENT AND PROCESSING DATA OF THE SS (LUBE) OIL PLANT. I. G. Farbenindustrie A. G., Schkopau, Ger. 1941-1944. 102f photos, diagrs, graphs, tables (Text in German) Mi $4.50, Enl Pr $15.00. PB 100846
1. Lubricating oils - Production - Germany 2. Micro BIOS FD 2564/47, Frames 1-9[illegible] English abstract included. Abstract available as PB 100846s. 2p. Mi $1.25, Ph $1.25.

FRICTION AND WEAR OF HOT-PRESSED BEARING MATERIALS CONTAINING MOLYBDENUM DISULFIDE, by Robert L. Johnson, Max A. Swikert, and Edmond E. Bisson. U. S. Flight Propulsion Laboratory, Cleveland, Ohio. Feb 1950. 22p photos, graphs Mi $2.00, Ph $3.75. PB 100495
Experiments were conducted to determine the feasibility of lubrication by transfer of molybdenum disulfide MoS_2 from the structure of a composite bearing material to the contacting interface of sliders at sliding velocities between 75 and 8000 feet per minute with loads of 269, 519, and 1017 grams. Loaded cylindrical specimens had hemispherical surfaces contacting rotating steel disks. This method of lubrication produced an effective surface film with materials containing more than 5-percent MoS_2, silver Ag, and 5-percent copper Cu. The best composition with consideration for both friction and wear contained 10-percent MoS_2, 85-percent Ag, and 5-percent Cu. NACA TN 2027.

IMPROVEMENTS OF PROCESSES RELATING TO DE-GASSING OF COAL, MANUFACTURE OF GAS-LIQUOR, AND BENZINE SYNTHESIS. Koppers, Heinrich A. G., Essen, Ger. 1932-1943. 88f photos, graphs (Text in German) Mi $3.75, Enl Pr $12.50. PB 100785
1. Coal – Coking - Germany 2. Gas liquor - Germany 3. Gasoline - Synthesis - Germany 4. Micro BIOS FD 179/47, Frames 1-86.

INVESTIGATION OF FRETTING CORROSION BY MICROSCOPIC OBSERVATION, by Douglas Godfrey. U. S. Lewis Flight Propulsion Laboratory, Cleveland, Ohio. Feb 1950. 21p photos Mi $2.00, Ph $3.75. PB 100496
Glass and other noncorrosive materials, as well as metals, were used as specimens. Convex surfaces were vibrated in contact with stationary flat surfaces at frequencies of 60 cycles or less than 1 cycle per second, an amplitude of 0.001 inch, and a load of 0.2 pound. Fretting corrosion was concluded to be caused by the removal of finely divided and apparently virgin material due to inherent forces and that its primary reaction is independent of vibratory motion or high sliding speeds. Fretting corrosion occurred to clean nonmetals and metals readily and glass microscope slides and steel balls provided an excellent method for visual studies. NACA TN 2039.

LINSEED OIL SUBSTITUTES. BIBLIOGRAPHY AND PATENT LITERATURE ON THE MANUFACTURE OF SYNTHETIC DRYING OILS. Ruhrchemie A. G., Oberhausen-Holten, Ger. 1941. 22f Mi $2.00, Enl Pr $5.00. PB 100817

1. Linseed oil - Substitutes - Production - Germany 2. Linseed oil - Substitutes - Germany 3. Drying oils, Synthetic - Production - Germany 4. Drying oils, Synthetic - Patents - Germany 5. Drying oils, Synthetic - Bibliography - Germany 6. Micro BIOS FD 5555/47, Frames 1-22.

Abstract available as PB 100817s. 1p. Mi $1.25, Ph $1.25.

OPERATION OF THE FISCHER-TROPSCH SYNTHESIS. Ruhrchemie A. G., Oberhausen-Holten, Ger. 1936-1944. 572f (Text in German) Mi $9.00, Enl Pr $76.25. PB 100821

1. Fischer-Tropsch process 2. Fuels, Synthetic - Production - Germany 3. Micro BIOS FD 55/48, Frames 1-571.

English abstract included. Abstract available as PB 100821s. 1p. Mi $1.25, Ph $1.25.

PRODUCTION OF LUBRICATING OILS FROM PRIMARY PRODUCTS OF THE FISCHER-TROPSCH SYNTHESIS. Ruhrchemie A. G., Oberhausen-Holten; Ger. 1937-1945. 293f drawings, graphs, tables (Text in German) Mi $9.00, Enl Pr $53.00. PB 100816

1. Fischer-Tropsch process 2. Lubricating oils - Production - Germany 3. Micro BIOS FD 5609/47, Frames 1-289.

Abstract available as PB 100816s. 2p. Mi $1.25, Ph $1.25.

SCHEMA, KOKSGASEWÄSCHE. SCHEMA DER REGENERATION III (DIAGRAM OF COKE OVEN PLANT. DIAGRAM OF "REGENERATION III", STRIPPING COLUMN FOR REGENATING AMMONIA SOLUTION). Gewerkschaft Victor, Castrop Rauxel, Ger. n.d. 5f drawings only Mi $1.25, Enl Pr $2.50. PB 100661

1. Coke plants - Design - Germany 2. Coke oven gas - Ammonia recovery - Germany 3. BIOS FR 1441 LD 4. Micro BIOS DOCS 2336/1301/8 5. Micro BIOS DOCS 2336/1301/9 6. Micro BIOS FD 5105/47, Frames 3-4.

Listed in BIOS FR 1441, p. 84.

SOLVENT EXTRACTION OF COAL BY AROMATIC COMPOUNDS AT ATMOSPHERIC PRESSURE, by C. Golumbic, J. B. Anderson, M. Orchin and H. H. Storch. U. S. Bureau of Mines. Mar 1950. 16p graphs, tables Mi $1.75, Ph $2.50. PB 100792

This paper represents a progress report of the results obtained to date. The experimental procedure, results and discussion are given. Tables, graphs and references are given. BM RI 4662.

TEMPERATURABHÄNGIGKEIT DER DICHTE VON AETHYLALKOHOL-WASSER-GEMISCHEN (DENSITY OF ETHYL ALCOHOL-WATER MIXTURES AS A FUNCTION OF THE TEMPERATURE), by S. Stuart. n.d. 38f diagr, graphs, tables Mi $2.25, Enl Pr $6.25. PB 100434

Tables were established to correlate the densities of ethyl alcohol-water mixtures, high-test gasoline, gas oil, and kokasine with temperature. On account of the limited range of the pyknometer, only the densities at $+20^{\circ}$ and $+50^{\circ}$ were determined with the specific gravity bottle for test control reasons, while the proper measurements were carried out with two dilatometers. Kinematic viscosity determinations of ethyl

alcohol-water mixtures 94.5% and 75%, high-test gasoline A3, gas oil, and kokasine were also made by means of flow viscosimeters. Dynamic viscosity data were obtained by multiplication of the kinematic viscosities by the densities. A description and diagram of the dilatometers are given as well as tables and graphs of the results. Translation by Consolidated Vultee Aircraft Corp., San Diego, Calif. May 1948.

INSTRUMENTS

DESIGN CRITERIA FOR AUTOMATIC CONTROLS, by Paul T. Nims. Jan 1950. 29p graphs, table Mi $2.00, Ph $3.75. PB 100851
1. Controls, Automatic 2. Automobiles - Controls, Automatic.

HIGH SPEED COUNTERS AND SHORT PULSE TECHNIQUES. Brookhaven National Laboratory, Upton, N. Y. Aug 1947. 51p photos, diagrs, graphs Limited supply mimeo $.25. Also available from U. S. Atomic Energy Commission, Oak Ridge, Tenn. Mimeo: $.25. PB 100875
Crystal and fast Geiger counters; multipliers and secondary emission phenomena; Cerenkov counters; coincidence techniques; broad band amplifiers. AECU 26. BNL-C-1.

HIGH SPEED SCALER DESIGN, by C. W. Johnstone. U. S. Atomic Energy Commission. Los Alamos Scientific Laboratory. n.d. 4p Limited supply mimeo $.05. Also available from U. S. Atomic Energy Commission, Oak Ridge, Tenn. Mimeo: $.05. PB 100586
Characteristics of a scaler with resolving times of from 0.1 microsecond to 1.0 microsecond are discussed and compared with conventional scaler designs; some applications of high speed scalers mentioned. AECU 364. MDDC LADC 669.

IMPROVED FLUOROPHOTOMETER, by Chesley B. Pickle. U. S. Atomic Energy Commission. Oak Ridge National Laboratory. Oct 1946. 9p photos, drawings, graphs Limited supply mimeo $.10. Also available from U. S. Atomic Energy Commission, Oak Ridge, Tenn. Mimeo: $.10. PB 100691
Description and operating characteristics of a physical-electronic instrument for measuring the intensity of fluorescence from a mixture of uranium and sodium fluoride when excited by ultraviolet light; circuit diagrams and performance curves. AECD 2433.

MEASURING YOUR WORKPIECE. U. S. Bureau of Ships. Mar 1947. 10p photos, drawings Available from Office of Technical Services, U. S. Dept. of Commerce, Washington 25, D. C. Mimeo: $.25. PB 99734
1. Instruments, Measuring - Efficiency 2. Instruments, Measuring - Standards 3. NAVSHIPS IN 63.
Industrial notes no. 63.

MICROMETERS; ACCURACY, CARE AND MAINTENANCE OF. U. S. Bureau of Ships. Jan 1947. 6p photos Available from Office of Technical Services, U. S. Dept. of Commerce, Washington 25, D. C. Mimeo: $.25. PB 99732
1. Micrometers - Maintenance and repair 2. Navy Spec 41C22b 3. NAVSHIPS IN 61.
Industrial notes no. 61.

PHILIPS TYPE VACUUM GAUGE, by Kenneth M. Simpson. U. S. Atomic Energy Commission, Oak Ridge, Tenn. Jan 1944. 10p drawings, graphs Limited supply mimeo $.10. Also available from U. S. Atomic Energy Commission, Oak Ridge, Tenn. Mimeo: $.10. PB 100706

Description of gauge; variations with materials, voltage and magnetic field; safety; leakage; response to changes of pressure; calibration of the gauge; drawing and graphs. AECD 2689.

PROPOSED METHOD OF COUNTING VOLTAGE PULSES LESS THAN 0.1 MICROSECOND LONG AT A CONTINUOUS RATE OF MORE THAN 10 MEGACYCLES, by Dean A. Watkins. U. S. Atomic Energy Commission. Los Alamos Scientific Laboratory. Nov 1948. 5p diagrs, drawing Limited supply mimeo $.05. Also available from U. S. Atomic Energy Commission, Oak Ridge, Tenn. Mimeo: $.05. PB 100581

Describes an electrostatic beam deflection tube which can be connected in tandem until the counting rate is low enough to operate conventional counting circuits and which will count voltage pulsed from a photo tube, caused by scintillations in an organic crystal; figures. AECU 79. MDDC LADC 590.

RANGE DISTRIBUTION OF THE CHARGED PARTICLES FROM THE D-D REACTIONS FOR 10 MEV DEUTRONS: DIFFERENTIAL ELASTIC SCATTERING CROSS SECTION AT 40 DEGREES, 60 DEGREES, AND 80 DEGREES IN THE CENTER OF MASS SYSTEM, by Louis Rosen, Francis K. Tallmadge and John H. Williams. U. S. Atomic Energy Commission. Los Alamos Scientific Laboratory. n.d. 13p drawings, graph, tables Limited supply mimeo $.10. Also available from U. S. Atomic Energy Commission, Oak Ridge, Tenn. Mimeo: $.10. PB 100692

Procedure and results for an experiment which consisted of bombarding thin gas targets with 10 Mev deuterons and simultaneously recording on photographic plates the number and ranges of the disintegration particles and scattered deuterons emitted into a known solid angle in a given direction; cross section calculations; graphs. Manuscript has been submitted to Physical Review for possible publication. AECD 2471. MDDC LADC 601.

REPORT ON D. C. OPERATION OF PHILIPS GAUGES, by J. M. Tolmie and Kenneth M. Simpson. U. S. Atomic Energy Commission, Oak Ridge, Tenn. May 1944. 9p drawings Limited supply mimeo $.10. Also available from U. S. Atomic Energy Commission, Oak Ridge, Tenn. Mimeo: $.10. PB 100707

Discussion of the problem of current leakage in the operation of the gauges; measures taken to reduce the effects of leakage; satisfactory operation in low pressure and high magnetic field strength regions where A. C. gauges are useless. AECD 2690.

RETRACTABLE LIQUID AIR TRAP, by Alan J. Samuel. U. S. Atomic Energy Commission, Oak Ridge, Tenn. Nov 1943. 8p photos, drawing Limited supply mimeo $.10. Also available from U. S. Atomic Energy Commission, Oak Ridge, Tenn. Mimeo: $.10. PB 100703

Design of experimental liquid air trap with a circular plate beneath that will close it off from the manifold system into a chamber when the trap is withdrawn after optimum pressure is obtained; liquid air can then be conserved during remainder of the run and released condensed vapors withdrawn without disturbing the manifold vacuum. AECD 2684.

STUDY OF X-RAYS FROM THE BERKELEY VAN DE GRAAFF GENERATOR, by M. R. Jeppson and C. M. Turner. U. S. Atomic Energy Commission, Oak Ridge, Tenn. Mar 1949. 7p graphs Limited supply mimeo $.05. Also available from U.S. Atomic Energy Commission, Oak Ridge, Tenn. Mimeo: $.05. PB 100877

Results of a brief investigation of X-ray conditions to determine what personnel protection is required and what if any are the factors which will ultimately limit the beam size; graphs. AECU 214. MDDC UCRL 313.

TILTING OIL MCLEOD GAUGE, by Frank Kirby. U. S. Atomic Energy Commission, Oak Ridge, Tenn. Nov 1943. 5p photos, drawings Limited supply mimeo $.05. Also Available from U. S. Atomic Energy Commission, Oak Ridge, Tenn. Mimeo: $.05. PB 100698

Describes the building of an experimental oil McLeod to determine the desirability of using oil in place of mercury in a McLeod gauge; this gauge is not intended as a plant instrument (it would be quite large with a 2000 ml bulb); it will be useful to calibrate Ion and Knudsen gauges; its working range is from 1×10^{-6} mm Hg. to 1×10^{-2} mm Hg.; scaled drawing and photographs. AECD 2673.

LUMBER AND WOOD PRODUCTS

FENCE POST PRESERVATION BY THE COLD-SOAK METHOD, by R. D. Dixon and M. M. Murphy. Georgia. University. Experiment Station, Experiment, Ga. Oct 1949. 6p drawing, table Available from Georgia Experiment Station, Univ. of Georgia, Experiment, Ga. PB 99682

Circular 161.

TEORI FOR ELASTISKA EGENSKAPER HOS ORTOTROPA PLATTOR, BELASTADE AV KRAFTSYSTEM I PLATTANS PLAN, JÄMTE TILÄMPNING PÅ KRYSSFANER AV BJÖRK (THEORY OF THE ELASTIC PROPERTIES OF ORTHOTROPIC SHEETS STRESSED BY FORCE SYSTEMS IN THEIR OWN PLANE APPLICATION TO BIRCH PLYWOOD), by B. Andersson and B. Bergqvist. Flygtekniska Forsoksanstalten (FFA) Stockholm. 1945. 110p photos, diagrs, graphs, tables (Text in Swedish) Mi $4.50, Ph $13.75. PB 100397

The problem is discussed of determining stresses and strains in plywood stressed-skin units such as wings and control surfaces. Formulas are developed for the necessary stiffness functions for the case of general linear orthotropic material. This material is defined as one having the same value of the stiffness functions in its whole extension along a given direction, independent of the location of the considered point. In part II curves have been calculated from tests performed on Swedish plywood. To procure values for stress coefficients and moduli for different angles to the grain, two Young moduli, the shear modulus and the Poissons modulus in the principal system of coordinates have been computed. Meddelande nr. 12 FFA rapport HE-99.

MACHINERY

BALL BEARINGS, CARE AND MAINTENANCE OF. U. S. Bureau of Ships. Dec 1947. 12p photos, diagrs, drawings Available from Office of Technical Services, U. S.

Dept. of Commerce, Washington 25, D. C. Mimeo: $.25. PB 99744
1. Ball bearings - Cleaning 2. Ball bearings - Maintenance and repair 3. NAVSHIPS IN 73.
Industrial notes no. 73.

CAM MILLING. U. S. Bureau of Ships. Oct 1947. 8p photo, drawings Available from Office of Technical Services, U. S. Dept. of Commerce, Washington 25, D. C. Mimeo: $.25. PB 99742
1. Cams 2. Cam milling 3. NAVSHIPS IN 71.
Industrial notes no. 71.

CENTERS; CONVENTIONAL (DEAD TYPE) AND LIVE. U. S. Navy Dept. Office of Procurement and Material. Jun 1945. 2p photos, drawings Available from Office of Technical Services, U.S. Dept. of Commerce, Washington 25, D. C. Mimeo: $.10. PB 99717
1. Machines, Grinding - Centering 2. NAVSHIPS IN 42.
Industrial notes no. 42.

CHROMIUM PLATING OF CUTTING TOOLS AND GAGES. U. S. Navy Dept. Office of Procurement and Material. Mar 1945. 2p Available from Office of Technical Services, U. S. Dept. of Commerce, Washington 25, D. C. Mimeo: $.10. PB 99715
1. Tools, Cutting - Chromium plating 2. Gages - Chromium plating 3. NAVSHIPS IN 36.
Industrial notes no. 36.

CORROSION OF THE PISTON-RING OF GAS COMPRESSOR, by S. Miyazaki, I. Takahashi, K. Hirai. Jul 1938. 11p tables (Text in Japanese) Mi $1.75, Ph $2.50. PB 100302
The causes of corrosion at the top of the 4-stage piston ring of the gas compressor and its counter-measures were investigated. The causes are due to hydrogen sulfide and carbon dioxide content in fuel, lubricant and water. Several spare parts of the piston ring were soaked in distilled water and saturated solution of carbon dioxide. This test showed the corrosive action to be a result of the drainage formed by compression, especially when there is carbon dioxide present. As a countermeasure, a forced lubricator is installed to supply sufficient oil to the cylinder. To eliminate as much water during the compression stroke as possible, lubrication is continued for some time before stopping operation. English digest by Naval Fuel Depot.

DRAWINGS RELATING TO METAL EXTRUSION PRESS, HYDRAULIC OVERPRESSURE FRUIT PRESS, CABLE SHEATHING PRESS, DISHING AND FLANGING PRESS. Schloemann A. G., Düsseldorf, Ger. 1938-1945. 221f drawings only (Legends in German) Mi $8.00, Enl Pr $30.00. PB 100848
1. Extrusion presses - Design - Germany 2. Presses, Hydraulic - Design - Germany 3. Micro BIOS FD 1841/49, Frames 1-29.

EFFECT OF THERMAL LAGGING ON AN 8-INCH DIFFUSION BOOSTER PUMP, by Kenneth M. Simpson and William M. Bush. U. S. Atomic Energy Commission, Oak Ridge, Tenn. Jan 1945. 5p graphs Limited supply mimeo $.05. Also available from U. S. Atomic Energy Commission, Oak Ridge, Tenn. Mimeo: $.05. PB 100705
Tests conducted concerning effects and feasibility of thermally insulating the boiler

of 8-inch booster pumps of design in present use; study of effect of increased temperatures upon oil and change of characteristics both as to pumping speed and to fore-pressure tolerance as lagging or more power or both are applied. AECD 2688.

EFFECTS OF AN AGING TREATMENT ON LIFE OF SMALL CAST VITALLIUM GAS-TURBINE BLADES, by Charles A. Hoffman and Charles Yaker. U. S. Lewis Flight Propulsion Laboratory, Cleveland, Ohio. Mar 1950. 25p photos, graphs, tables Mi $2.00, Ph $3.75. PB 100494

Twenty small cast Vitallium gas-turbine blades, aged at 1500° F for 48 hours, and 33 unaged small cast Vitallium gas-turbine blades were operated at an estimated temperature of 1500° F with a centrifugal stress of 20,000 pounds per square inch at the expected failure zone. The experimental results indicated improved mean life, uniformity of individual blade life, and, consequently, improved time for initial failure. Objective statistical analysis indicated that the observed improvements may not have been significant. NACA TN 2052.

ELECTRIC MOTORS, CARE AND MAINTENANCE OF. U. S. Bureau of Ships. Jul 1947. 8p photos, diagrs Available from Office of Technical Services, U. S. Dept. of Commerce, Washington 25, D. C. Mimeo: $.25. PB 99739

1. Motors, Electric - Maintenance and repair 2. NAVSHIPS IN 68.

Includes Naval industrial reading digest to Industrial notes, no. 68 'Electric motor maintenance''.

ELEKTRISCHE ÖFEN IN DER PULVERMETALLURGIE (ELECTRIC FURNACES IN POWDER METALLURGY), by R. Kieffer and F. Krall. Mar 1942. 8f photos, drawings, graphs, table (Text in German) Mi $1.25, Enl Pr $2.50. PB 100890

1. Furnaces, Electric - Germany 2. Furnaces, Sintering - Germany 3. Metallurgy, Powder - Germany 4. Micro BIOS DOCS 1678/685/33 5. Micro BIOS FD 1732/46, Frames 1-5.

Reprinted from Elektrowärme, jahrg. 12, hft.3, Mar 1942. Abstract available as PB 100890s. 3p. Mi $1.25, Ph $1.25.

EXTRACTION OF BROKEN DRILLS AND REAMERS. U. S. Navy Dept. Office of Procurement and Material. Mar 1944. 2p drawing Available from Office of Technical Services, U. S. Dept. of Commerce, Washington 25, D. C. Mimeo: $.10. PB 99711

1. Drills, Broken - Extraction 2. Reamers, Broken - Extraction 3. NAVSHIPS IN 7

FERROPRINTS OF HYDRAULIC PRESSES. Hydraulik G.m.b.H., Duisburg, Ger. 1929-1942. 85f drawings only (Legends in German) Mi $3.75, Enl Pr $12.50. PB 100831

1. Extrusion presses - Design - Germany 2. Presses, Hydraulic - Design - Germany 3. Micro BIOS/DOCS 2430/3486 4. Micro BIOS FD 663/49, Frames 1-42.

Some drawings will not reproduce well.

GASKET CUTTING. U. S. Bureau of Ships. Sep 1946. 6p photos, drawings, table Available from Office of Technical Services, U. S. Dept. of Commerce, Washington 25, D. C. Mimeo: $.25. PB 99728

1. Gaskets - Cutting 2. NAVSHIPS IN 56.

Includes Naval industrial reading digest to industrial note no. 56.

GETRIEBE MIT ELEKTROMAGNETISCHER SCHALTUNG (TRANSMISSION GEAR WITH ELECTROMAGNETIC CONTROL), by A. Maier. Jan 1942. 39f drawings, graphs (Text in German and English) Mi $2.25, Enl Pr $6.25. PB 100889
1. Gears, Transmission - Germany 2. Micro BIOS FD 1065/46, Frames 1-29.
Reprint and translation of article from Atz. automobiltechnische zeitschrift, nr. 16. English abstract included. Abstract available as PB 100889s. 1p. Mi $1.25, Ph $1.25.

GRINDING FAULTS. U. S. Bureau of Ships. Jan 1946. 4p photos Available from Office of Technical Services, U. S. Dept. of Commerce, Washington 25, D. C. Mimeo: $.10. PB 99721
1. Grinding - Irregularities 2. NAVSHIPS IN 47.
Industrial notes no. 47.

GRINDING MACHINES; CARE AND MAINTENANCE. U. S. Navy Dept. Office of Procurement and Material. Feb 1945. 2p Available from Office of Technical Services, U. S. Dept. of Commerce, Washington 25, D. C. Mimeo: $.10. PB 99714
1. Machines, Grinding - Maintenance and repair 2. NAVSHIPS IN 34.

HACKSAW BLADES, SELECTION, USE, CARE AND MAINTENANCE OF. U. S. Bureau of Ships. Mar 1948. 8p photos, diagrs, table Available from Office of Technical Services, U. S. Dept. of Commerce, Washington 25, D. C. Mimeo: $.25. PB 99767
1. Hacksaws - Blades - Maintenance and repair 2. NAVSHIPS IN 77.
Includes Naval industrial reading digest to Industrial Notes no. 77.

HALIDE TORCH METHOD OF LEAK DETECTION, by Alfred C. Schmidt. U. S. Atomic Energy Commission, Oak Ridge, Tenn. Sep 1943. 4p drawings Limited supply mimeo $.05. Also available from U. S. Atomic Energy Commission, Oak Ridge, Tenn. Mimeo: $.05. PB 100701
Details of rapid, sensitive, clean and inexpensive method of detecting leaks using a burner, something like a Bunsen burner, operating on a halide free gas, preferably Freon; method compared with other leak detecting tests; large leaks must be sealed before test is sensitive; includes a sketch of the halide torch. AECD 2678.

HAND STONING OF CUTTING TOOLS. U. S. Navy Dept. Office of Procurement and Material. Apr 1945. 2p photos Available from Office of Technical Services, U. S. Dept. of Commerce, Washington 25, D. C. Mimeo: $.10. PB 99716
1. Tools, Cutting - Honing 2. NAVSHIPS IN 39.
Industrial notes no. 39.

HOT PLANING TESTS, by Hettich. Krupp, Friedrich, A. G., Widia Fabrik, Essen, Ger. Jun-Aug 1942. 13f (Text in German and English) Mi $1.75, Enl Pr $3.75. PB 100779
1. Tools, Cutting - Tests - Germany 2. Micro BIOS FD 4182/47, Frames 1-5.
English abstract included. Abstract available as PB 100779s. 1p. Mi $1.25, Ph $1.25.

HOT WIRE VACUUM SWITCH, by Clarence Wieske. U. S. Atomic Energy Commission, Oak Ridge, Tenn. Nov 1943. 10p photos, drawing, graph Limited supply mimeo $.10. Also available from U. S. Atomic Energy Commission, Oak Ridge, Tenn. Mimeo: $.10. PB 100709

Development of an electric switch, which will open an interlock circuit within a fraction of one second, if the gas pressure in a vacuum system should rise above any predetermined value; switch can be used on either the high-vacuum or fore-vacuum side of system; cut-off point can be from 10 to more than 400 microns; photos; schematic drawing. AECD 2693.

INDEX HEADS AND INDEXING. U. S. Bureau of Ships. May 1947. 8p photos, diagrs Available from Office of Technical Services, U. S. Dept. of Commerce, Washington 25, D. C. Mimeo: $.25. PB 99736
1. Indexing (Machine work) 2. NAVSHIPS IN 65.
Includes Naval industrial reading digest. Supplement to Industrial notes no. 65.

LAPPING AND HONING. U. S. Bureau of Ships. Sep 1948. 8p diagrs, drawings Available from Office of Technical Services, U. S. Dept. of Commerce, Washington 25, D. C. Mimeo: $.25. PB 99746
1. Lapping 2. Honing 3. NAVSHIPS IN 83.
Includes Naval industrial reading digest to Industrial notes no. 83, Lapping and honing.

MODERN MILLING PRACTICES, SUMMARY OF. U. S. Bureau of Ships. Feb 1947. 6p photos, drawings Available from Office of Technical Services, U. S. Dept. of Commerce, Washington 25, D. C. Mimeo: $.25. PB 99733
1. Milling industry 2. NAVSHIPS IN 62.
Industrial notes no. 62.

MULTI-COLUMN COUNTERCURRENT MOLECULAR STILL, by Samuel I. Madorsky. U. S. Atomic Energy Commission, Oak Ridge, Tenn. Aug 1949. 15p photos, drawings Limited supply mimeo $.10. Also available from U. S. Atomic Energy Commission, Oak Ridge, Tenn. Mimeo: $.10. PB 100699
Still, based on refluxing by gravity feeds and circulation of the liquid by means of magnetic pumps, is described; each column consists of a concentric evaporator having surface of 300 square centimeters surrounded by water-cooled condenser; still comprises 19 practical plates or 13 theoretical plates; magnetic pump, designed to operate in a vacuum, described; drawings; photos. Manuscript has been submitted to the Review of Scientific Instruments. AECD 2674.

PIPE THREADING TOOLS, CARE AND MAINTENANCE OF. U. S. Bureau of Ships. Jun 1949. 12p photos, diagrs Available from Office of Technical Services, U. S. Dept. of Commerce, Washington 25, D. C. Mimeo: $.25. PB 99754
1. Tools, Pipe threading 2. NAVSHIPS IN 93.
Contains Naval industrial reading digest to Industrial notes no. 93.

POWER CHUCKS; PNEUMATIC, HYDRAULIC AND ELECTRIC. U. S. Navy Dept. Office of Procurement and Material. Jul 1945. 2p photos, drawings Available from Office of Technical Services, U. S. Dept. of Commerce, Washington 25, D. C. Mimeo: $.10. PB 99718
1. Chucks, Pneumatic 2. Chucks, Hydraulic 3. Chucks, Electric 4. NAVSHIPS IN 43.

PRECISION LOCATING OF DRILLHOLES. U. S. Bureau of Ships. Mar 1949. 8p photos, diagrs, drawings Available from Office of Technical Services, U. S. Dept. of Commerce, Washington 25, D. C. Mimeo: $.25. PB 99752
1. Drill holes 2. NAVSHIPS IN 90.

PROCEDURES USED IN PRECISION CASTING FOUNDRY, by William F. Davenport and Adolph Strott. U. S. Air Materiel Command. Engineering Division. Materials Laboratory, Wright Field, Dayton, Ohio. Sep 1949. 22f photos, tables Mi $2.00, Enl Pr $5.00. PB 110120
1. Foundry practice 2. Castings, Precision 3. AAF TR 5925.

PRODUCERS OF SINGLE AND DOUBLE PILGER TUBE ROLLING MILLS PLANT, PT. 2: TUBE MILL FOR THE PRODUCTION OF TUBES OF 2.2" TO 4.2" DIAMETER, MAXIMUM LENGTH OF TUBE 10.6M ACCORDING TO DRAWINGS RW10021 TO RW10689. Demag A. G., Duisburg, Ger. n.d. 793f drawings (Text in German) Mi $9.00, Enl Pr $105.00. PB 100837
1. Machines, Rolling mill - Germany 2. Tubes - Production - Germany 3. Micro BIOS FD 1901/46, pt. 2 (frames 051144-051297).
List of drawings in English. For pt. 1, 3-5 see PB 90993.

SELECTING THE RIGHT TAP FOR THE JOB. U. S. Bureau of Ships. Dec 1946. 8p photos, drawings, fold table Available from Office of Technical Services, U.S. Dept. of Commerce, Washington 25, D. C. Mimeo: $.25. PB 99731
1. Taps - Selection 2. NAVSHIPS IN 60.
Includes Naval research digest - supplement to Industrial note no. 60.

SHARPENING MILLING CUTTERS. U. S. Bureau of Ships. Nov 1948. 12p photos, diagrs, drawings Available from Office of Technical Services, U. S. Dept. of Commerce, Washington 25, D. C. Mimeo: $.25. PB 99748
1. Tools, Cutting - Sharpening 2. NAVSHIPS IN 85.

SINGLE POINT TOOLS, SHARPENING OF. U. S. Bureau of Ships. Nov 1948. 16p photos, diagrs, drawings, table Available from Office of Technical Services, U. S. Dept. of Commerce, Washington 25, D. C. Mimeo: $.25. PB 99749
1. Tools, Cutting - Sharpening 2. NAVSHIPS IN 86.
Includes Naval industrial reading digest on "Sharpening single point tools" (SPT).

SOLDERING AND BRAZING TECHNIQUES. U. S. Bureau of Ships. Sep 1947. 12p photos, drawings Available from Office of Technical Services, U. S. Dept. of Commerce, Washington 25, D. C. Mimeo: $.25. PB 99741
1. Soldering - Methods 2. Brazing - Methods 3. NAVSHIPS IN 70.

STABILITY OF FLAME HOLDERS, by James B. Osborn. May 1948. 58p photos, diagrs, graphs, tables Mi $2.75, Ph $7.50. PB 100398
The problem of flame holder stability as a flow problem from an area ratio point of view is attacked in an effort to establish the stable region of operation for flame holders of given area ratios. No satisfactory theory exists as to the mechanism by which flame holders accomplish their mission. However, in one detail all flame holders are similar, and that is that they have built into them an exit area to approach area ratio. Twenty-two stability tests were run, and the results were tabulated by listing the temperature and pressure differentials in the combustion chamber. It was concluded that for a given air supply and flame holder area ratio, there is only one point of fuel input for stable burning. Control of the system by varying the fuel input is of little value, since an increase or decrease from the "lower point of stability" will throw the system unstable. (The lower limit of stability represents here the highest "economical" temperature ratio of operation.) Thesis-Rensselaer Polytechnic Institute, Troy, N. Y.

SURFACE GRINDING FAULTS. U. S. Bureau of Ships. Jun 1946. 6p drawings Available from Office of Technical Services, U. S. Dept. of Commerce, Washington 25, D. C. Mimeo: $.25. PB 99726
1. Grinding - Irregularities 2. NAVSHIPS IN 53.
Includes No. 8, N.I.R.D. Supplement no. 1 to Industrial note no. 53.

THREAD CUTTING ON A LATHE. U. S. Bureau of Ships. Aug 1947. 12p photos, drawings Available from Office of Technical Services, U. S. Dept. of Commerce, Washington 25, D. C. Mimeo: $.25. PB 99740
1. Screw threads - Cutting 2. Machines, Screw cutting 3. NAVSHIPS IN 69.

TOOL CHATTER. U. S. Bureau of Ships. Feb 1949. 12p photos, drawings Available from Office of Technical Services, U. S. Dept. of Commerce, Washington 25, D. C. Mimeo: $.25. PB 99750
1. Tools - Vibration 2. NAVSHIPS IN 88.
Includes Naval industrial reading digest to industrial notes, no. 88 "Tool chatter". See also PB 99738.

TUBE MILL FOR THE PRODUCTION OF TUBES OF 2.2" TO 4.2" DIAMETER, MAXIMUM LENGTH OF TUBE 10.6M ACCORDING TO DRAWINGS RW 10021 TO RW 10689. Demag A. G., Duisburg, Ger. n.d. 793f drawings (Text in German) Mi $9.00, Enl Pr $105.00. PB 100837
1. Tubes - Production - Germany 2. Micro BIOS FD 1901/46, Frames 051144-051297.
List of drawings in English.

ÜBER DIE SINTERUNG VON REINEM WOLFRAMKARBID (ON THE SINTERING OF PURE TUNGSTEN CARBIDE). Studiengesellschaft Hartmetall, Berlin. Oct 1937. 7f (Text in German) Mi $1.25, Enl Pr $2.50. PB 100782
1. Tungsten carbides - Sintering - Germany 2. Tools, Cutting - Tests - Germany 3. BIOS FR 925 LD 4. Micro BIOS HEC 11112 5. Micro BIOS FD 3774/47, Frames 1-6.
English abstract included. Listed in BIOS FR 925 appx. I, p. 11.

ÜBER EINE HARTMETALL SIEB-MASCHINE (A HARD METAL SIEVING MACHINE). Studiengesellschaft Hartmetall, Berlin. Sep 1936. 6f diagr (Text in German) Mi $1.25, Enl Pr $2.50. PB 100783
1. Metal powders - Sieving - Germany 2. Machines, Sieving - Germany 3. Sieves - Germany 4. BIOS FR 925 LD 5. Micro BIOS HEC 11075 6. Micro BIOS FD 3751/47, Frames 1-5.
English abstract included. Abstract available as PB 100783s. 2p. Mi $1.25, Ph $1.25. Listed in BIOS FR 925, appendix I, p. 7.

V-BELTS, CARE AND MAINTENANCE OF. U. S. Bureau of Ships. Aug 1946. 6p photos, diagrs Available from Office of Technical Services, U. S. Dept. of Commerce, Washington 25, D. C. Mimeo: $.25. PB 99727
1. Belts, V - Maintenance and repair 2. NAVSHIPS IN 55.
Includes N.I.R.D. Suppl. 1 to Industrial note no. 55.

VIBRATION OF MACHINE TOOLS, CAUSES AND ELIMINATION OF. U. S. Bureau of Ships. Jul 1947. 10p photos, drawings Available from Office of Technical Services,

U. S. Dept. of Commerce, Washington 25, D. C. Mimeo: $.25. PB 99738
1. Tools - Vibration 2. NAVSHIPS IN 67.
See also PB 99750.

MEDICAL RESEARCH AND PRACTICE

CHARACTER OF BLOOD FLOW IN THE VASODILATED FINGER, by Jere Mead and Robert C. Schoenfeld. U. S. Climatic Research Laboratory, Lawrence, Mass. Feb 1950. 15p graphs, tables Limited supply available from Office of Technical Services, U. S. Dept. of Commerce, Washington 25, D. C. $.50. PB 100896

A new method for determining instantaneous rates of inflow and outflow in fingers through which large amounts of blood are flowing has been devised and described. The method is applicable for use on human subjects whenever high rates of blood flow are to be measured on the fingers and toes. QMC EPS 161.

INHALATION TOXICITY OF SODIUM ACID SULFATE MIST AT 75 MG/M^3 IN ANIMALS, by George F. Sprague, Edward Doran, James K. Scott and H. E. Stokinger. U. S. Atomic Energy Commission, Oak Ridge, Tenn. Nov 1948. 5p Limited supply mimeo $.05. Also available from U. S. Atomic Energy Commission, Oak Ridge, Tenn. Mimeo: $.05. PB 100874

Determination of the role of the sulfate ion in producing the pulmonary changes seen in laboratory animals exposed to beryllium sulfate mist. AECD 18. MDDC UR 48.

TRANSPLANTATION OF BONE MARROW INTO DOGS THAT HAVE RECEIVED TOTAL-BODY SINGLE DOSE RADIATION, by Paul E. Rekers. U. S. Atomic Energy Commission, Oak Ridge, Tenn. n.d. 196p photos, graphs, tables Limited supply mimeo $.60. Available also from U. S. Atomic Energy Commission, Oak Ridge, Tenn. Mimeo: $.60. PB 100873

Results of single dose radiation on normal dogs; results of transplantation of marrow into single dose radiated dogs; experiments to explain the results noted following radiation or marrow transplantation. AECD 1966.

METALS AND METAL PRODUCTS

ADVISORY REPORT ON INDEXING OF DIVISION 18 NDRC REPORTS: REPORTS ON HEAT RESISTANT ALLOYS, by Katharine Forsyth. U. S. National Defense Research Committee. Jun 1946. 38p Mi $2.25, Ph $5.00. PB 100301

An index is prepared of information on heat resistant alloys. Projects listed are concerned with various uses such as engine parts, ordnance material, supercharger parts, and turbine parts; weldability of high resistant alloys and sheet materials for high temperature service are included. A numerical list of project reports, a subject index covering tests and properties of the alloys studied, and an alphabetical and numerical list of the alloys comprise the report. OSRD 6669.

BERYLLIUM-IRON SYSTEM, by Robert J. Teitel. U. S. Atomic Energy Commission, Oak Ridge, Tenn. Apr 1948. 89p photos, drawings, graphs, tables Limited supply

mimeo $.35. Also available from U. S. Atomic Energy Commission, Oak Ridge, Tenn. Mimeo: $.35. PB 100561

The alloys of iron and beryllium are studied, primarily from the standpoint of the equilibrium diagram; special equipment is described for carrying out thermal analysis and quenching experiments; tables of data; figures; 19 references. AECD 2251.

BESUCH BEI S & H WERNERWERK M AM 23. 1.41 BETR. ELEKTROLYTISCHE AUFARBEITUNG VON HARTMETALLABFÄLLEN (VISIT TO S & H WERNERWERK M WITH REGARD TO ELECTROLYTIC RECOVERY FROM HARD METAL SCRAP). Studiengesellschaft Hartmetall, Berlin. Jan 1941. 3f (Text in German) Mi $1.25, Enl Pr $2.50. PB 100653

1. Scrap metal - Recovery processes - Germany 2. Siemens & Halske A.G., Berlin 3. BIOS FR 925 LD 4. Micro BIOS HEC 11271 5. Micro BIOS FD 3863/47, Frames 1-2.

English abstract included. Abstract available as PB 100653s. 1p. Mi $1.25, Ph $1.25. Listed in BIOS FR 925 appx. I, p. 26.

BIEGEFESTIGKEIT VERSCHIEDENER EISEN-METALLOXYD BEZW. METALLSULFID-LEGIERUNGEN (BENDING STRENGTH OF VARIOUS IRON-METAL OXIDE AND/OR METAL SULPHIDE ALLOYS), by Dr. Dawihl and Dr. Schmidt. Studiengesellschaft Hartmetall, Berlin. Mar 1944. 10f photos, graphs, tables (Text in German) Mi $1.25, Enl Pr $2.50. PB 100606

1. Bend testing machines - Germany 2. Koymann bend-testing machine - Germany 3. Alloys - Tests - Germany 4. Micro BIOS FR 925 LD 5. Micro BIOS HEC 11428 6. Micro BIOS FD 3950/47, Frames 1-9.

English abstract included. Abstract available as PB 100606s. 1p. Mi $1.25, Ph $1.25. Listed in BIOS FR 925 appx. I, p. 41.

BRASSES AND BRONZES - MACHINING OF. U. S. Bureau of Ships. Oct 1948. 12p diagrs, tables Available from Office of Technical Services, U. S. Dept. of Commerce, Washington 25, D. C. Mimeo: $.25. PB 99747

1. Brass - Machinability 2. Bronze - Machinability 3. NAVSHIPS IN 84.

Contains Naval industrial reading digest for no. 84 on "Machining of brass and bronze".

BRAZING AND SOLDERING BY INDUCTION HEATING. U. S. Bureau of Ships. Mar 1946. 6p photos, drawings Available from Office of Technical Services, U. S. Dept. of Commerce, Washington 25, D. C. Mimeo: $.25. PB 99722

1. Brazing - Methods 2. Soldering - Methods 3. Heating, Induction 4. NAVSHIPS IN 49.

Industrial notes no. 49.

CLEANING AND DEGREASING PRACTICES. U. S. Bureau of Ships. May 1946. 6p Available from Office of Technical Services, U. S. Dept. of Commerce, Washington 25, D. C. Mimeo: $.25. PB 99724

1. Cleaning 2. Degreasers 3. Metals - Rust preventives 4. Rust prevention 5. Corrosion - Prevention 6. NAVSHIPS IN 51.

Industrial notes no. 51. Contains suppl. 1 to Industrial notes no. 51.

CLEANING METALLIC SURFACES, II. U. S. Bureau of Ships. Mar 1950. 10p photos diagrs Available from Office of Technical Services, U. S. Dept. of Commerce,

Washington 25, D. C. Mimeo: $.25. PB 100860
1. NAVSHIPS IN 102.
Includes Naval industrial reading digest to industrial notes no. 102, "Metal cleaning". For Part I see PB 100493.

CREEP TESTS WITH HIGH-TEMPERATURE AND LOW-TEMPERATURE STEELS. PT. I. Krupp, Friedrich A. G., Essen, Ger. 1929-1945. 554f photos, drawings, graphs, tables (Text in German) Mi $9.00, Enl Pr $73.75. PB 100822
1. Steel - Creep tests - Germany 2. Rex 91 (Trade name) 3. Tinidur (Trade name) 4. Micro BIOS FD 91/49, Frames 1-500.
For pt. 2 see PB 100823. Abstract available as PB 100822s. 2p. Mi $1.25, Ph $1.25.

CREEP TESTS WITH HIGH-TEMPERATURE AND LOW-TEMPERATURE STEELS. PT. II. Krupp, Friedrich A. G., Essen, Ger. 1929-1945. 446f photos, drawings, graphs, tables (Text in German) Mi $9.00, Enl Pr $46.25. PB 100823
1. Steel - Creep tests - Germany 2. Rex 91 (Trade name) 3. Trinidur (Trade name) 4. Micro BIOS FD 91/49, Frames 501-946.
Abstract available as PB 100822s. 2p. Mi $1.25, Ph $1.25.

EINIGE BEOBACHTUNGEN BEIM LOETEN VON TIC-HALTIGEN HARTMETALL (SOME OBSERVATIONS ON SOLDERING HARD METAL CONTAINING TIC) by Dr. Dawihl. Studiengesellschaft Hartmetall, Berlin. Feb 1944. 3f (Text in German) Mi $1.25, Enl Pr $2.50. PB 100607
1. Soldering - Methods - Germany 2. Metals, Hard - Soldering - Germany 3. BIOS FR 925 I D 4. Micro BIOS HEC 11425 5. Micro BIOS FD 3948/47, Frames 1-2.

EXPLANATORY STUDIES ON THE REMOVAL OF PLUTONIUM FROM LIQUID WASTES BY ACTIVATED SLUDGE, by John F. Newell. U. S. Atomic Energy Commission. Los Alamos Scientific Laboratory. Oct 1949. 4p table Limited supply mimeo $.05. Also available from U. S. Atomic Energy Commission, Oak Ridge, Tenn. Mimeo: $.05. PB 100710
Summary of the work; shows biological adsorptive material present will remove 90-95% of tracer quantities of Pu^{239} from aqueous waste solution. ^ECD 2712.

FLAME-HARDENING. U. S. Bureau of Ships. Nov 1949. 10p photos, diagrs, drawings, tables Available from Office of Technical Services, U. S. Dept. of Commerce, Washington 25, D. C. Mimeo: $.25. PB 100611
1. Metals - Hardening 2. NAVSHIPS IN 99.
Includes Naval industrial reading digest to industrial notes, no. 99 on "Flame hardening".

GEFÜGEBESTIMMUNG VON KARBURIERTEN BV III KERMEN (STRUCTURE OF CARBURISED BV III CORES), by Dr. Dawihl and Dr. Hilliger. Studiengesellschaft Hartmetall, Berlin. Jan 1941. 4f photos (Text in German) Mi $1.25, Enl Pr $2.50. PB 100647
1. BV III (Trade name), 2. Tungsten-nickel-carbon alloys - Germany 3. BIOS FR 925 LD 4. Micro BIOS HEC 11270 5. Micro BIOS FD 4003/47, Frames 1-3.
English abstract included. Abstract available as PB 100647s. 1p. Mi $1.25, Ph $1.25. Listed in BIOS FR 925 appx. I, p. 26

GEFÜGEPRÜFUNG AN F1-BETRIEBSPOSTEN VERSCHIEDENER SINTERART (STRUCTURE OF F1 PRODUCTION LOTS WITH VARIATION IN THE SINTERING). Studiengesellschaft Hartmetall, Berlin. Nov 1943. 5f photos (Text in German) Mi $1.25, Enl Pr $2.50. PB 100609

1. F1 (Hard metal) 2. Metals, Hard - Structural tests - Germany 3. Metals, Hard - Sintering - Germany 4. BIOS FR 925 LD 5. Micro BIOS HEC 11414 6. Micro BIOS FD 3946/47, Frames 1-4.

English abstract included. Abstract available as PB 100609s. 1p. Mi $1.25, Ph $1.25. Listed in BIOS FR 925 appx. I, p. 39.

GEFÜGEVERÄNDERUNG DER S1-BETRIEBSPOSTEN DES WIDIA-BETRIEBES (DIFFERENCES IN STRUCTURE IN WIDIA PRODUCTION LOTS OF S1). Studiengesellschaft Hartmetall, Berlin. Nov 1943. 4f photos (Text in German) Mi $1.25, Enl Pr $2.50. PB 100610

1. S1 (Hard metal) 2. Metals, Hard - Production - Germany 3. BIOS FR 925 LD 4. Micro BIOS HEC 11413 5. Micro BIOS FD 3945/47, Frames 1-3.

English abstract included. Abstract available as PB 100610s. 1p. Mi $1.25, Ph $1.25. Listed in BIOS FR 925 appx. I, p. 39.

HARD-FACING. U. S. Navy Dept. Office of Procurement and Material. Jun 1944. 2p photos Available from Office of Technical Services, U. S. Dept. of Commerce, Washington 25, D. C. $.10. PB 99712

1. Alloys, Hard - Uses 2. Metals - Hard facing 3. Steel - Hard facing 4. NAVSHIPS IN 15.

U. S. Bureau of Ships. Industrial notes no. 15.

HARTMETALL MIT EISEN- UND NICKELHILFSMETALLEN (HARD METALS WITH IRON AND NICKEL BINDERS), by Dawihl and Schmidt. Studiengesellschaft Hartmetall, Berlin. Nov 1943. 12f photos, graphs, tables (Text in German) Mi $1.75, Enl Pr $3.75. PB 100644

1. Alloys, Hard - Physical properties - Germany 2. Alloys, Hard - Structure - Germany 3. BIOS FR 925 LD 4. Micro BIOS HEC 11408 5. Micro BIOS FD 3940/47, Frames 1-11.

English abstract included. Abstract available as PB 100644s. 1p. Mi $1.25, Ph $1.25. Listed in BIOS FR 925 appx. 1, p. 39.

HEAT TREATMENT. I AND II. U. S. Bureau of Ships. Feb-Mar 1948. 20p photos, drawings Available from Office of Technical Services, U. S. Dept. of Commerce, Washington 25, D. C. Mimeo: $.25. PB 99745

1. Metals - Cooling 2. Metals - Heat treatment 3. NAVSHIPS IN 75 4. NAVSHIPS IN 76.

Includes Industrial notes no. 75 and 76.

HERSTELLUNG NICHT METALLISCHER EINLAGERUNGEN DURCH TRAENKUNG IN EISENSINTERKÖRPEN (NON-METALLIC INCLUSIONS IN SINTERED IRON BODIES PRODUCED BY IMPREGNATION), by Dr. Dawihl. Studiengesellschaft Hartmetall, Berlin. Jul 1944. 5f photos (Text in German) Mi $1.25, Enl Pr $2.50. PB 100603

1. Impregnation - Germany 2. Iron powder compacts - Tests - Germany 3. BIOS FR 925 LD 4. Micro BIOS HEC 11441 5. Micro BIOS FD 3956/47, Frames 1-4

English abstract included. Abstract available as PB 100603s. 1p. Mi $1.25, Ph $1.25. Listed in BIOS FR appx. I, p. 42.

INFLUENCE OF ELECTROLITIC POLISHING ON THE FATIGUE RESISTANCE OF STEEL. SUPERPOSITION OF A. C. IN ELECTROLYTIC POLISHING. CORROSION TRIALS ON ELECTROLYTICALLY POLISHED STEEL, by J. Heyes and W. A. Fischer. British Intelligence Objectives Sub-Committee. May 1945. 18f tables Mi $1.75, Enl Pr $3.75. PB 100433

Three reports are presented, discussing the influence of electrolytic polishing on the fatigue resistance of steel, superposition of AC in electrolytic polishing, and corrosion tests on electrolytically polished steel. Micro BIOS HEC 13722.

INFRARED SPECTRA OF THE ACETYLACETONATES OF URANIUM, THORIUM, IRON AND MAGNESIUM, by H. W. Morgan. U. S. Atomic Energy Commission, Oak Ridge, Tenn. May 1949. 16p diagr, graphs, tables Limited supply mimeo $.10. Also available from U. S. Atomic Energy Commission, Oak Ridge, Tenn. Mimeo: $.10. PB 100696

The spectra of these complexes and of acetylacetone are traced and compared in order to determine the vibration frequencies associated with the U-O bonds in the uranous acetylacetonate complex; experimental procedure; figures. AECD 2659.

KEYS AND KEYWAYS. U. S. Bureau of Ships. Jun 1947. 8p drawings Available from Office of Technical Services, U. S. Dept. of Commerce, Washington 25, D. C. Mimeo: $.25. PB 99737

1. Keys 2. Slots 3. NAVSHIPS IN 66.

Includes additional information through Naval industrial reading digest to "Keyways".

LEISTUNGS- UND GEFÜGEUNTERSCHIEDE BEI TIC-CO. HARTMETALLEN (DIFFERENCES IN PERFORMANCE AND STRUCTURE OF TIC-CO HARDMETALS). Studiengesellschaft Hartmetall, Berlin. Sep 1943. 5f (Text in German) Mi $1.25, Enl Pr $2.50. PB 100645

1. Titanium carbides - Structure - Germany 2. Titanium carbides - Performance - Germany 3. BIOS FR 925 LD 4. Micro BIOS HEC 11404 5. Micro BIOS FD 3939/47, Frames 1-4.

English abstract included. Abstract available as PB 100645s. 1p. Mi $1.25, Ph $1.25. Listed in BIOS FR 925 p. 38. Illustrations are not reproduced.

MAGNESIUM ALLOYS, MACHINING OF. U. S. Bureau of Ships. Mar 1947. 10p diagrs, drawings, tables Available from Office of Technical Services, U. S. Dept. of Commerce, Washington 25, D. C. Mimeo: $.25. PB 99735

1. Magnesium alloys - Machinability 2. NAVSHIPS IN 64.

Includes Naval industrial reading digest for industrial notes no. 64 "Magnesium".

MANUFACTURE OF TITANIUM ALLOYS, BY L. S. BUSCH AND R. H. FREYER. FINAL REPORT, REPORT NO. 7 ON NAVY CONTRACT NOA (S) 9919, PERIOD OCT 31, 1948 TO OCT 31, 1949. Mallory, P. R. & Co., Inc., Indianapolis, Ind. Nov 1949. 108p photos, graphs, fold. tables Mi $4.50, Ph $13.75. PB 100000

1. Titanium alloys - Manufacture 2. Titanium alloys - Properties 3. Furnaces, Metallurgical.

Metallurgical Engineering Dept. Memo. no. 8000-M-464.

METAL SPINNING. U. S. Bureau of Ships. May 1946. 6p photos, drawings Available from Office of Technical Services, U. S. Dept. of Commerce, Washington 25, D. C. Mimeo: $.25. PB 99725

1. Metals - Spinning 2. NAVSHIPS IN 52.

Industrial notes no. 52.

METALLIZING. U. S. Bureau of Ships. Jan 1946. 4p diagrs Available from Office of Technical Services, U. S. Dept. of Commerce, Washington 25, D. C. Mimeo: $.10 PB 99720

1. Metallizing 2. NAVSHIPS IN 46.
Page 4 is no. 2 N.I.R.D. "Metallizing". Industrial note no. 46.

A NEW, SAFE, GRAPHITE-NODULIZING ALLOY, by E. T. Myskowski and R. P. Dunphy. U. S. Naval Research Laboratory, Bellevue, D. C. 1949. 15p photos, graphs, tables Mimeo: $.50. PB 98919r

1. Iron-silicon-magnesium alloys 2. NRL R 3563.

OYDATION VON EISENPRESSLINGEN ZU EISEN-EISENOXYDLEGIERUNGEN DURCH GLÜHUNG AN LUFT (OXIDATION OF PRESSED IRON COMPACTS TO IRON-FERRIC OXIDE ALLOYS BY ANNEALING IN AIR). Studiengesellschaft Hartmetall, Berlin. Jul 1944. 10f photos, graphs, tables (Text in German) Mi $1.25, Enl Pr $2.50. PB 100605

1. Iron alloys - Oxidation - Germany 2. BIOS FR 925 LD 3. Micro BIOS HEC 11434 4. Micro BIOS FD 3953/47, Frames 1-8.
English abstract included. Listed in BIOS FR 925 appx. I, p. 41.

PERMANENTLY IDENTIFYING ALUMINUM SHEET ALLOY PARTS, by E. P. Helm. Beech Aircraft Corp., Wichita, Kansas. Jun 1944. 15p photos, tables Mi $1.75, Ph $2.50. PB 100403

Tests were conducted to find and develop an ink which could easily be applied and which would leave permanent marking on sheet Al alloys through all the ordinary aircraft processes such as cleaning, degreasing, anodizing, priming, heat treating, forming, etc. An ink combination of hydrofluoric acid, a vegetable resin, glycerine, and an organic dye was tried and found highly efficient. Engineering test report no. P-99.

POLISHING AND BUFFING TECHNIQUES. U. S. Bureau of Ships. May 1949. 12p photos, table Available from Office of Technical Services, U. S. Dept. of Commerce, Washington 25, D. C. Mimeo: $.25. PB 99753

1. Polishing 2. Buffing 3. Abrasives - Uses 4. NAVSHIPS IN 92.
Contains additional information on "Polishing and buffing practices". Industrial notes no. 92.

PROPERTIES OF ZIRCONIUM, by Francis W. Boulger. U. S. Atomic Energy Commission, Oak Ridge, Tenn. Mar 1949. 84p graphs, tables Limited supply mimeo $.30. Also available from U. S. Atomic Energy Commission, Oak Ridge, Tenn. Mimeo: $.30. PB 100711

Covering thermal, electrical, optical and thermionic, magnetic, mechanical, atomic, and nuclear properties; applications; corrosion; structure; alloys; working data; special testing; bibliography. AECD 2726.

PRÜFUNG DER HARTA LEGIERUNGEN BESTEHEND AUS EISEN, BOR, ALUMINIUM UND WENIG SILICIUM AUF HARTMETALLÄHNLICHKEIT. I. GUSSVERFAHREN. II. SINTERVERFAHREN (TESTING CAST AND SINTERED "HARTA"-ALLOYS COMPOSED OF IRON, BORON, ALUMINIUM AND A LITTLE SILICON IN COMPARISON WITH HARD METALS. I. CAST. II. SINTERED). Studiengesellschaft Hartmetall, Berlin. Sep 1944. 2f (Text in German) Mi $1.25, Enl Pr $2.50. PB 100602

1. Iron-aluminum-silicon alloys - Germany 2. Harta alloys (Trade name) 3. BIOS FR 925 LD 4. Micro BIOS HEC 11443 5. Micro BIOS FD 3958/48, Frame 1.
English abstract included. Abstract available as PB 100602s. 1p. Mi $1.25, Ph $1.25. Listed in BIOS FR 925 appx. I, p. 42.

PRÜFUNG DER ZUNDERBESTÄNDIGKEIT VERSCHIEDENER SINTERLEGIERUNGEN. (TESTS ON THE SCALING RESISTANCE OF VARIOUS SINTERED ALLOYS) ÜBER DIE ZUNDERBESTÄNDIGKEIT EINIGER TITAN- UND METALLSINTERLEGIERUNGEN (SCALING RESISTANCE OF SOME TITANIUM AND METAL SINTERED ALLOYS). Studiengesellschaft Hartmetall, Berlin. May 1941-Nov 1944. 19f graphs (Text in German) Mi $1.75, Enl Pr $3.75. PB 100592
1. Alloys, Hard - Stability - Germany 2. Titanium alloys - Stability - Germany 3. Metals - Scaling - Germany 4. BIOS FR 925 LD 5. Micro BIOS HEC 11308 6. Micro BIOS HEC 11451 7. Micro BIOS FD 3966/47, Frames 1-16.
English abstract included. Abstract available as PB 100592s. 1p. Mi $1.25, Ph $1.25. Listed in BIOS FR 925 appx. I, p. 30 and 42.

SELECTING THE RIGHT ABRASIVE FOR THE JOB. U. S. Bureau of Ships. Mar 1949. 12p photos, diagrs, tables Available from Office of Technical Services, U. S. Dept. of Commerce, Washington 25, D. C. Mimeo: $.25. PB 99751
1. Abrasives - Uses 2. Grinding 3. NAVSHIPS IN 89.
Includes Naval industrial reading digest to "Selecting the right wheel for the job". Industrial notes no. 89.

SINTERVERSUCHE ZUR ERREICHUNG KLEINERER MANGANOXYDEINLAGERUNGEN IN EISENSINTERKÖRPERN (EXPERIMENTS IN SINTERING TO OBTAIN SMALLER DEPOSITS OF MANGANESE OXIDE IN SINTERED IRON BODIES). Studiengesellschaft Hartmetall, Berlin. Jul 1944. 4f tables (Text in German) Mi $1.25, Enl Pr $2.50. PB 100604
1. Iron powders - Sintering - Germany 2. BIOS FR 925 LD 3. Micro BIOS HEC 11440 4. Micro BIOS FD 3955/47, Frames 1-2.
English abstract included. Abstract available as PB 100604s. 2p. Mi $1.25, Ph $1.25. Listed in BIOS FR 925 appx. 1, p. 42.

SPECTRUM QUANTITATIVE ANALYSIS OF LIGHT ALLOY, by Tokujiro Osato. Oct 1943. 33f photos, diagrs, graphs, tables (Text in Japanese) Mi $2.25, Enl Pr $6.25. PB 100428
1. Alloys, Light metal - Quantitative analysis - Japan 2. Spectrum analysis - Japan
Digest in English. Jap/2495.

STAINLESS STEEL, MACHINING OF. U. S. Bureau of Ships. Nov 1947. 12p photos, diagrs Available from Office of Technical Services, U. S. Dept. of Commerce, Washington 25, D. C. Mimeo: $.25. PB 99743
1. Steel, Stainless - Machinability 2. NAVSHIPS IN 72.
Includes additional information on the Machining of stainless steel. How private industry is machining stainless steel. Also includes Naval industrial reading digest to Industrial notes no. 72.

STRESS AND STRAIN CONCENTRATION AT A CIRCULAR HOLE IN AN INFINITE PLATE, by Elbridge Z. Stowell. U. S. Langley Aeronautical Laboratory, Langley Field, Va. Apr 1950. 14p graphs Mi $1.75, Ph $2.50. PB 100739

Formulas for stress and strain concentration at a circular hole in an infinite plate under tension have been derived for use in the plastic region. Values of stress concentration obtained from the formula are in good agreement with limited tests on 24S-T3 aluminum-alloy tension panels. The strain concentration factor is also in agreement with these tests. NACA TN 2073.

STUDY OF MOLD WASHES FOR SAND MOLDS, by Robert E. Morey and Carl G. Ackerlind. U. S. Naval Research Laboratory, Washington, D. C. Oct 1949. 18p photo, graphs, tables Mimeo: $.50. PB 100515

Mold washes are suspensions of fine refractory particles in a liquid medium which are applied to the surfaces of a cavity in a sand mold. Their purpose is to resist the penetration of the metal into the interstices between the sand grains and to improve the surface appearance of the casting. Studies have been made of the effect of water content, bentonite content, and refractory particle size on the characteristics of mold washes. It was found that the suspensions can be made thixotropic by carefully controlled additions of bentonite. Dextrine in small amounts supplies the necessary dry strength to prevent abrasion, cracking, and spalling. Size of the refractory particles has little effect on consistency of the wash. A satisfactory mixture has been evolved and given extensive practical trials. NRL R 3560.

SURFACE TENSION ANOMALIES IN MELTS CONTAINING LEAD OXIDE AND BORON OXIDE, by Sölve Carlén. 1949. 15p photos, drawings, graphs, tables Mi $1.75, Ph $2.50. PB 100098

Certain melts in the system $PbO-B_2O_3$ had positive temperature coefficients for surface tension which changed continuously as the composition of the melt was changed. The temperature coefficient $d\gamma/dT$ in the range 600° to 1100°C is negative for a composition containing 75% PbO. Between 82,5 and 84% PbO, $d\gamma/dT$ became O in the same range. For compositions containing 84 to 94% PbO, $d\gamma/dT$ approached O at 1100°C. Determinations at higher temperatures were erratic. The method of heating and cooling the 92% PbO melt markedly affected the results obtained. A single melt in the $PbO-SiO_2$ system, containing 95% PbO, had a positive temperature coefficient. Acta polytechnica no. 50, 1949. Transactions of the Chalmers University of Technology Gothenburg, Sweden, no. 85, 1949.

TECHNOLOGISCHE EIGENSCHAFTEN DER SINTERKÖRPER DES SYSTEMS EISEN-MANGAN-OXYD (PROPERTIES OF SINTERED COMPACTS OF THE IRON-MANGANESE OXIDE SYSTEM), by Dr. Schmidt. Studiengesellschaft Hartmetall, Berlin. Oct 1944. 22f photos, graphs, tables (Text in German) Mi $2.00, Enl Pr $5.00. PB 100601

1. Iron powder compacts - Physical properties - Germany 2. Iron-manganese-oxide alloys - Germany 3. BIOS FD 925 LD 4. Micro BIOS HEC 11446 5. Micro BIOS FD 3961/47, Frames 1-21.

TESTS OF LININGS FOR BRAKES AND COUPLINGS FROM POWDERED METALS AND METAL WOOL. Metallgesellschaft A. G., Frankfurt, Ger. 1938. 18f photos, graphs, tables (Text in German) Mi $1.75, Enl Pr $3.75. PB 110054

1. Brakes - Linings - Tests - Germany 2. Magnesium powders - Uses - Germany 3. Kieselguhr (Trade name) 4. Micro BIOS HEC 3773 5. Micro BIOS HEC 3780 6. Micro BIOS HEC 3781 7. Micro BIOS FD 1076/46, Frames 1-17.

English abstract included. Abstract available as PB 110054s. 1p. Mi $1.25, Ph $1.25.

TUBE BENDING PRACTICES. U. S. Bureau of Ships. Apr 1946. 6p photos, drawings Available from Cffice of Technical Services, U. S. Dept. of Commerce, Washington 25, D. C. Mimeo: $.25. PB 99723

1. Tubes - Bending 2. NAVSHIPS IN 50 3. NAVSHIPS IN 50, Supp.

Industrial notes no. 50. Contains no. 6 N.I.R.D., Supplement to Industrial notes no. 50.

UEBER DIE ABHÄNGIGKEIT DER ZERREISSFESTIGKEIT DER EISENSINTERSTÄBE VON EIGENHÄRTE UND HERSTELLUNGSVERFAHREN DER PULVER (EFFECT OF THE ORIGINAL HARDNESS AND MANUFACTURING PROCESS ON THE ULTIMATE TENSILE STRENGTH OF SINTERED IRON RODS). Studiengesellschaft Hartmetall, Berlin. Dec 1944. 9f photos, graphs, tables (Text in German) Mi $1.25, Enl Pr $2.50. PB 100590

1. Metals, Sintered - Tests - Germany 2. Iron, Sintered - Tensile tests - Germany 3. BIOS FR 925 LD 4. Micro BIOS HEC 11453 5. Micro BIOS FD 3967/47, Frames 1-7.

English abstract included. Abstract available as PB 100590s. 2p. Mi $1.25, Ph $1.25. Listed in BIOS FR 925 appx. I, p. 43.

UEBER.DIE BILDUNG EINER TITANKARBIDFREIEN SCHICHT AN DER OBERFLÄCHE HOCHGESINTERTER TITANKARBIDLEGIERUNGEN (FORMATION OF A TITANIUM CARBIDE-FREE LAYER ON THE SURFACE OF HIGHLY SINTERED TITANIUM CARBIDE ALLOYS). Studiengesellschaft Hartmetall, Berlin. Jan 1941. 4f (Text in German) Mi $1.25, Enl Pr $2.50. PB 100651

1. Titanium carbides - Germany 2. BIOS FR 925 LD 3. Micro BIOS HEC 11268 4. Micro BIOS FD 3880/47, Frames 1-3.

UEBER DIE EINWIRKUNG DER PULVERSTRUKTUR AUF EISENMANGANOXYD SINTERKÖRPER (INFLUENCE OF THE STRUCTURE OF THE POWDER ON IRON-MANGANESE-OXIDE SINTERED COMPACTS), by Dr. Dawihl. Studiengesellschaft Hartmetall, Berlin. Nov 1944. 5f (Text in German) Mi $1.25, Enl Pr $2.50. PB 100600

1. Iron powder compacts - Germany 2. Iron-manganese-oxide alloys - Germany 3. BIOS FR 925 LD 4. Micro BIOS HEC 11447 5. Micro BIOS FD 3962/47, Frames 1-4.

English abstract included. Abstract available as PB 100600s. 1p. Mi $1.25, Ph $1.25. Tables, photographs, etc., mentioned in abstract, are not included. Listed in BIOS FR 925 appx. I, p. 43.

UEBER DIE GEFÜGEBILDUNG VON TIC-VC-HARTMETALLEN IN ABHÄNGIGKEIT VON DER SINTERART (STRUCTURE FORMATION OF TIC-VC HARD METAL AND ITS DEPENDENCE ON SINTERING METHODS), by Schmidt and Coursew. Studiengesellschaft Hartmetall, Berlin. Oct 1944. 14f (Text in German) Mi $1.75, Enl Pr $3.75. PB 100589

1. Metals, Hard - Sintering - Germany 2. Titanium carbides - Structure - Germany 3. Vanadium carbides - Structure - Germany 4. BIOS FR 925 LD 5. Micro BIOS HEC 11452 6. Micro BIOS FD 3969/47, Frames 1-8.

Listed in BIOS FR 925 appx. I, p. 43. Abstract available as PB 100589s. 2p. Mi $1.25, Ph $1.25.

UEBER DIE VERSINTERUNG VON WOLFRAM MIT NIEDRIGER SCHMELZENDEN METALLEN, 2. BERICHT: W-CU (SINTERING OF TUNGSTEN WITH COPPER). Studiengesellschaft Hartmetall, Berlin. May 1942. 5f photo, graphs (Text in German) Mi $1.25, Enl Pr $2.50. PB 100650

1. Tungsten - Sintering - Germany 2. BIOS FR 925 LD 3. Micro BIOS HEC 11370 4. Micro BIOS FD 3918/47, Frames 1-4.

English abstract included. Abstract available as PB 100650s. 1p. Mi $1.25, Ph $1.25. Listed in BIOS FR 925 appx. I, p. 35.

UEBER SINTERKÖRPER AUS NI MIT MNO_2-ZUSATZ (SINTERED COMPACTS OF NI WITH MNO_2 ADDITIONS). Studiengesellschaft Hartmetall, Berlin. Nov 1944. 21f photos, graphs, tables (Text in German) Mi $2.00, Enl Pr $5.00. PB 100593

1. Nickel powder compacts - Tests - Germany 2. Nickel-manganese-oxide powders - Structure - Germany 3. BIOS FR 925 LD 4. Micro BIOS HEC 11450 5. Micro BIOS FD 3965/47, Frames 1-20.

English abstract included. Abstract available as PB 100593s. 1p. Mi $1.25, Ph $1.25. Listed in BIOS FR 925 appx. I, p. 43.

ÜBER ZONENKRISTALLBILDUNG DER TITANKARBIDKRISTALLE (ZONAL FORMATION OF CRYSTALS OF TIC), by Dr. Dawihl and Dr. Schmidt. Studiengesellschaft Hartmetall, Berlin. Nov 1943. 4f (Text in German) Mi $1.25, Enl Pr $2.50. PB 100643

1. Titanium carbides - Crystals - Germany 2. BIOS FR 925 LD 3. Micro BIOS HEC 11409 4. Micro BIOS FD 3941/47, Frames 1-3.

English abstract included. Abstract available as PB 100643s. 1p. Mi $1.25, Ph $1.25. Listed in BIOS FR 925 appx. I, p. 39. Photomicrographs are missing.

VERFAHREN ZUM LÖTEN VON HARTMETALLEN MIT HILFSMETALLEN AUF EISEN-NICKEL-KOBALTGRUNDLAGE (SOLDERING HARD METAL BY AUXILIARY METALS ON AN IRON-NICKEL-COBALT BASE). Studiengesellschaft Hartmetall, Berlin. Feb 1945. 3f (Text in German) Mi $1.25, Enl Pr $2.50. PB 100588

1. Metals, Hard - Soldering - Germany 2. Iron-nickel-cobalt alloys - Germany 3. BIOS FR 925 LD 4. Micro BIOS HEC 11456 5. Micro BIOS FD 3970/47, Frames 1-2.

English abstract included. Abstract available as PB 100588s. 1p. Mi $1.25, Ph $1.25. Listed in BIOS FR 925 appx. I, p. 44.

VERSUCHE ZUR HERSTELLUNG VON KONTAKSTIFTEN AUS WOLFRAMFREIEN HARTMETALLEGIERUNGEN (ATTEMPTS TO MANUFACTURE CONTACT PINS OF TUNGSTEN-FREE HARD METAL ALLOYS). Studiengesellschaft Hartmetall, Berlin. Dec 1943. 3f photo (Text in German) Mi $1.25, Enl Pr $2.50. PB 100608

1. Contacts, Electric - Pins - Germany 2. BIOS FR 925 LD 3. Micro BIOS HEC 11420 4. Micro BIOS FD 3947/47, Frames 1-2.

English abstract included. Abstract available as PB 100608s. 1p. Mi $1.25, Ph $1.25.

WELDABILITY OF ALLOYS FOR HIGH-TEMPERATURE SERVICE (N5-ORI-111), by G. E. Linnert. U. S. Office of Naval Research. May 1947. 81p photos, drawings, tables Mi $3.75, Ph $11.25. PB 100305

The weldability of a series of heat-resisting alloys intended for use in gas turbine wheels was studied using a new specimen which incorporates the design

features found in the weld joint of a bucketed wheel. All crack-type defects are reproduced in the "wheel- and bucket" test specimen. Attempts to correlate weld metal composition with inter-bucket junction extension cracking were unsuccessful because of inherent deficiencies in the data and difficulty in obtaining chemical analyses of the weld deposits.

MINERALS AND MINERAL PRODUCTS

ATTEMPTED PREPARATION OF A TRIVALENT THORIUM COMPOUND. PROBLEM ASSIGNMENT NO. 121, by J. C. Warf. U. S. Atomic Energy Commission, Oak Ridge, Tenn. May 1947. 7p Limited supply mimeo $.05. Also available from U. S. Atomic Energy Commission, Oak Ridge, Tenn. Mimeo: $.05. PB 100695

Evidence for the existence of a "thoride" series for elements of atomic number 91 and beyond was sought by unsuccessful attempts to prepare thorium trifluoride by reduction of the tetrafluoride with the metal; review of the literature and brief discussion of electron configurations of thorium and neighboring elements; references. AECD 2654.

CELLULAR-GLASS INSULATION FOR LOW-TEMPERATURE EQUIPMENT, by Victor Sanders. Pittsburgh Corning Corp., Pittsburgh, Pa. n.d. 11f Mi $1.75, Enl Pr $3.75. PB 100809

The purpose of this paper is to show why the physical and chemical properties of cellular glass make it the ideal insulation for low-temperature equipment. A brief history of glass is given, in addition to an outline of physical and chemical properties important in the selection of an insulation and a description of two low-temperature field installations. Cellulated glass with a closed cell non-connecting structure meets the most important requirements established for an ideal thermal insulation. Because it is impervious to moisture and vapor, it is particularly indicated for very low temperature work where its physical properties permit using with it the accessory materials commonly available.

COLOR OF MINERALS, BY W. A. WEYL, M. D. BEALS, A. I. CRAMER, T. FÖRLAND. PENNSYLVANIA STATE COLLEGE. SCHOOL OF MINERAL INDUSTRIE. CONTRACT NO. N6 ONR 269 TASK ORDER 11, NR032-265. Dec 1948. 25p Mi $2.00, Ph $3.75. PB 100426

1. Minerals - Color.

Technical report no. 1.

DESIGN AND CONSTRUCTION OF SENSITIVE FLUOROPHOTOMETERS. PART I. PRINCIPLES, by G. R. Price. U. S. Atomic Energy Commission. Argonne National Laboratory. Apr 1948. 18p drawings Limited supply mimeo $.10. Also available from U. S. Atomic Energy Commission, Oak Ridge, Tenn. Mimeo: $.10. PB 100700

Describes development of fluorometers of exceptional sensitivity and range to be used for analysis of U concentrations; includes details of basic optical system, geometric optics, the photoelectric system, construction principles. AECD 2677.

EFFECT OF DIFFERENT GASES ON PHILIPS GAUGES, by Lawrence R. Foote. U.S. Atomic Energy Commission, Oak Ridge, Tenn. Jun 1944. 13p graphs Limited supply mimeo $.10. Also available from U. S. Atomic Energy Commission, Oak

Ridge, Tenn. Mimeo: $.10. PB 100697

Study of effects of air, nitrogen, oxygen, helium and water vapor on Philips gauges. AECD 2672.

EINWERKUNG VON PHOSPHORSÄURE AUF KERAMISCHE ROHSTOFFE SOWIE GEBRANNTE ERZEUGNISSE UND EIN NEUES VERFAHREN DER RATIONELLEN ANALYSE VON TONEN (EFFECT OF PHOSPHORIC ACID ON CERAMIC RAW MATERIALS AND BAKED WARES, AND A NEW PROCESS FOR THE QUANTITATIVE ANALYSIS OF CLAYS) ÜBER DIE ART DER WASSERBINDUNG IM KAOLINMOLEKÜL (NATURE OF THE WATER BOND IN THE KAOLIN MOLECULE), by Hans Hirsch and Walter Dawihl. Feb 1932-Mar 1933. 18f (Text in German) Mi $1.75, Enl Pr $3.75. PB 100436

1. Ceramics - Research - Germany 2. Phosphoric acid - Effect on ceramic materials - Germany 3. Quartz - Analysis - Germany 4. Kaolin - Water content - Germany 5. BIOS FR 925 ID 6. Micro BIOS HEC 11503 7. Micro BIOS FD 4001/47, Frames 1-16.

English abstract included.

INVESTIGATIONS ON GRANULATED BLASTFURNACE SLAGS FOR THE MANUFACTURE OF PORTLAND BLASTFURNACE CEMENT, by T. W. Parker and R. W. Nurse. Gt. Brit. Dept. of Scientific and Industrial Research. Building Research Station, Watford, Eng. Sep 1949. 30p drawings, graphs, tables (part fold) Available from British Information Services, 30 Rockefeller Plaza, New York 20, N.Y. $.25. PB 100898

The investigation was carried out during the period 1940-1942 on behalf of the Ministry of Supply and Ministry of Works. It was considered desirable to have in reserve a scheme for producing blastfurnace cement, either to increase overall production to meet any unusual demand for cement or to restore, at least in part, any of the productive capacity of the industry which might be destroyed by air attack. DSIR NB TP 3.

METALLKERAMIK, ZUSAMMENHÄNGE ZWISCHEN METALLKERAMIK UND OXYDKERAMIK (METAL CERAMICS, RELATIONS BETWEEN METAL CERAMICS AND COMMON CERAMICS) METALKERAMISCHE WERKSTOFFE IHRE HERSTELLUNG UND ANWENDUNG (METAL-CERAMIC WORKING MATERIALS, THEIR MANUFACTURE AND APPLICATION), by Fr. Rollfinke. 1940. 17f drawings, graphs (Text in German) Mi $1.75, Enl Pr $3.75. PB 100891

1. Ceramic materials - Germany 2. Micro BIOS/DOCS/1678/685/35 3. Micro BIOS FD 1734/46, Frames 1-15.

Reprinted from Zeitschrift des Vereins deutscher ingenieure, v. 84, no. 37 and 49, 1940. English abstract included. Abstract available as PB 100891s. 2p. Mi $1.25, Ph $1.25.

PROCEDURE FOR THE RADIOCHEMICAL ANALYSIS OF BARIUM, STRONTIUM AND THE RARE EARTHS IN HUMAN URINE, by Paul C. Tompkins, L. B. Farabee and J. X. Khym. U. S. Atomic Energy Commission. Oak Ridge National Laboratory. Aug 1949. 14p diagr, table Limited supply mimeo $.10. Also available from U. S. Atomic Energy Commission, Oak Ridge, Tenn. Mimeo: $.10. PB 100708

A method depending on the coprecipitation of the rare earth and alkaline earth elements with calcium phosphate from an alkaline solution, separation of the phosphoric acid from the cations by an ion exchange column, and a separation of barium, strontium and rare earths from calcium and magnesium by a chromate precipitation. AECD 2692.

PRODUCTION AND USES OF PERLITE. U. S. Office of Technical Services. Mar 1950. 6p Available from Office of Technical Services, U. S. Dept. of Commerce, Washington 25, D. C. Mimeo: $.25. PB 100497
1. Perlite - Production 2. Perlite - Uses.

VAPOR PRESSURE OF HCL-HBR SOLUTIONS AT -86.4° C, by David Altman. U. S. Atomic Energy Commission, Oak Ridge, Tenn. Jun 1945. 9p drawing, graphs, tables Limited supply mimeo $.10. Also available from U. S. Atomic Energy Commission, Oak Ridge, Tenn. Mimeo: $.10. PB 100702
Analysis of the composition of a gas containing HCL and HBr in the equilibrium studies involving the mixed halides of tetravalent uranium; apparatus and technique described. AECD 2681.

ORDNANCE AND ACCESSORIES

AIRCRAFT FLARE MK VI, MOD. 1. U. S. Naval Ordnance Laboratory, Baldwin, L. I., N. Y. Feb 1940. 8p drawings only Mi $1.25, Ph $1.25. PB 100786
1. Flares, Aircraft - Design 2. MK VI, mod. 1 (Aircraft flare).
Will not reproduce well.

AIRCRAFT FLARE MK VI, MOD. 1. ASSEMBLAGE PARTS. U. S. Naval Ordnance Laboratory, Baldwin, L. I., N. Y. Feb 1940. 8p drawings only Mi $1.25, Ph $1.25. PB 100789
1. Flares, Aircraft - Design 2. MK VI, mod. 1 (Aircraft flare).
Will not reproduce well.

AIRCRAFT FLARE MK VI, MOD. 1. PARACHUTE AWNING. U. S. Naval Ordnance Laboratory, L. I., N. Y. Feb 1940. 8p drawings only Mi $1.25, Ph $1.25. PB 100788
1. Flares, Aircraft - Design 2. Flares, Aircraft - Parachutes, Auxiliary 3. MK VI, mod. 1 (Aircraft flare).
Will not reproduce well.

AIRCRAFT FLARE MK VI, MOD. 1 & 5. FIRING BLOCK ASSEMBLY AND DETAILS. U. S. Naval Ordnance Laboratory, Baldwin, L. I., N. Y. Feb 1940. 8p drawings only Mi $1.25, Ph $1.25. PB 100787
1. Flares, Aircraft - Design 2. MK VI, mod. 1 & 5 (Aircraft flare).
Will not reproduce well.

EFFECT OF FILTERED SMOKE PARTICLES IN GAS MASKS, by Jiro Sakanouye. Tokyo. Central Meteorological Observatory. Dec 1946. 7f graphs, tables Mi $1.25, Enl Pr $2.50. PB 100420
The effect of various types of smoke on the air-flow resistance of dust-mask filters was tested by means of a specially constructed device. The smokes of ammoniated chloride, anthracene, phthalic acid anhydride, alpha- and beta-naphtol, and stearic acid are deposited in solid individual particles. While they bring a rapid rise in the rate of increase of flow resistance, they are quick to produce a maximum point of saturation. Smokes of paraffin, lanolin, resin, diphenyl-cyanarsin, and chloride of arsenic deposit themselves in a homogeneous layer like a

liquid. The rate of increase in resistance brought about by these is initially rather slow, but increases with time. Suitable combinations of both types of these smokes can increase the total air-flow resistance considerably. Captured document: Jap/ 2672-4.

LEIFTFERNROHR 7B (AUTOMATIC BOMBSIGHT 7B). Zeiss, Carl A. G., Jena, Ger. n.d. 38f drawings, graph Mi $2.25, Enl Pr $6.25. PB 100086
1. Bombsights - Germany 2. Bombsights - Maintenance and repair - Germany 3. 7B (Bombsight) 4. AAF T-2 Micro Reel 2028, Frame 578.
Will not reproduce well.

ONE DIMENTIONALIZED AERO-THERMODYNAMIC THEORY OF TURBULENT FLAME PROPAGATION IN FLAME TUBES, by J.K.L. MacDonald. New York University, New York, N. Y. Nov 1947. 21f diagrs, graphs Mi $2.00, Enl Pr $5.00. PB 98877
1. Combustion - Theory.
Technical report no. 6, Project Squid, a cooperative program of fundamental research in jet propulsion for the Bureau of Aeronautics and the Office of Naval Research contract N6 ori-11, Task order II.

ULTRA VIOLET BANDS OF OH: FUNDAMENTAL DATA, by G. H. Dieke and H. M. Crosswhite. Johns Hopkins University. Applied Physics Laboratory, Silver Springs, Md. Nov 1948. 126p photos, graphs, tables Mi $5.00, Ph $16.25. PB 98903
A survey is made of the ultra violet bands of OH of the wave-length region 2800-3550A. The OH-bands are of importance for temperature measurements in flames and other combustion processes, as well as for a general exploration of the physical conditions in flames. In addition to the above measurements, other determinations which were made include a revised analysis and classification of nine bands, a location of all blends which may give rise to trouble in temperature measurements, a recalculation of all band constants, a tabulation of rotational transition probabilities necessary for the applications, as well as a tabulation of the rotational and vibrational energy levels. Tables were compiled of the infrared bands of OH as calculated from the data obtained from the ultra violet bands. A simplified method for routine temperature measurements and tables for its use are presented. Dumblelee Series Report no. 87. Contract NOrd 8036 with the Bureau of Ordnance, U. S. Navy.

PHYSICS

Nuclear

EXPERIMENTS ON N-P SCATTERING WITH 90 AND 40 MEV NEUTRONS, by J. Hadley and others. U. S. Atomic Energy Commission, Oak Ridge, Tenn. n.d. 21p drawings, tables Limited supply mimeo $.10. Also available from U. S. Atomic Energy Commission, Oak Ridge, Tenn. Mimeo: $.10. PB 100689
Results of measurement of the neutron-proton total scattering cross section and the differential cross section as a function of the angle of scattering; experimental procedure and apparatus described in detail; figures. Manuscript has been submitted to the Physical Review for possible publication. AECD 2344. MDDC UCRL 166.

HEAT TRANSFER IN STABLE FILM BOILING, by LeRoy Alton Bromley. U. S. Atomic Energy Commission, Oak Ridge, Tenn. Jun 1948. 37p graphs, tables Limited supply mimeo $.20. Also available from U. S. Atomic Energy Commission, Oak Ridge, Tenn. Mimeo: $.20. PB 100687

Calculation of coefficients of heat transfer to be expected in natural convection stable film boiling from a horizontal tube by the use of derived equations; extensive experimental data included; equations are derived for the case of film boiling from a vertical plane surface. AECD 2295. MDDC UCRL 122.

NEUTRON AGE CALCULATION IN WATER, GRAPHITE, AND TISSUE, by A. S. Householder. U. S. Atomic Energy Commission. Oak Ridge National Laboratory. n.d. 7p Limited supply mimeo $.05. Also available from U. S. Atomic Energy Commission, Oak Ridge, Tenn. Mimeo: $.05. PB 100693

Discusses studies of the diffusion of neutrons through matter by means of the Monte Carlo method; includes a brief summary of the slow-neutron problem, which consists of using the Monte Carlo method for solving the Milne integral equation; life histories of neutrons were obtained by using the Goertzel-Spinrad nomogram. AECD 2633.

PRECISE DETERMINATION OF THE SLOW NEUTRON CROSS SECTION OF THE FREE PROTON, by Edward Melkonian. U. S. Atomic Energy Commission, Oak Ridge, Tenn. Aug 1949. 27p drawings, graphs Limited supply mimeo $.15. Also available from U. S. Atomic Energy Commission, Oak Ridge, Tenn. Mimeo: $.15. PB 100690

Describes measurement of the total neutron cross sections of H_2, n-butane and water with the Columbia University slow neutron velocity spectrometer in the energy range 0.8 to 15 e.v.; analysis of these data gave a value of 20.36 ± 0.01 for the free proton cross section; technique of making absolute transmission measurements and the corrections for multiple scattering discussed. Manuscript has been submitted to the Physical Review for possible publication. AECD 2416.

PROPERTIES OF ATOMIC NUCLEI. I. SPINS, MAGNETIC MOMENTS, AND ELECTRIC QUADRUPOLE MOMENTS, REVISED by Howard L. Poss. Brookhaven National Laboratory, Upton, N. Y. Oct 1949. 35p graphs, tables Limited supply mimeo $.20. Also available from U. S. Atomic Energy Commission, Oak Ridge, Tenn. Mimeo: $.20. PB 100880

Compilation of data given in title; references; this compilation brings up to date a previous table compiled by D. R. Inglis and H. H. Goldsmith and issued as BNL-I-5. BNL 26(T-10).

PROPERTIES OF ATOMIC NUCLEI. III. NUCLEAR ENERGY LEVELS Z=11-20, by D. E. Alburger and E. M. Hafner. Brookhaven National Laboratory, Upton, N. Y. Jul 1940. 22p tables Limited supply mimeo $.15. Also available from U. S. Atomic Energy Commission, Oak Ridge, Tenn. Mimeo: $.15. PB 100879

Presents tables summarizing the energies of known excited states in 33 isotopes from sodium to calcium, and containing over 300 levels observed in radioactivity and transmutation experiments. AECU 549. BNL-T-9.

SCATTERING OF SLOW NEUTRONS BY PARAMAGNETIC CRYSTALS, by I. W. Ruderman. U. S. Atomic Energy Commission, Oak Ridge, Tenn. Apr 1949. 36p

graphs, tables Limited supply mimeo $.20. Also available from U. S. Atomic Energy Commission, Oak Ridge, Tenn. Mimeo: $.20. PB 100694

Experimental details and results for paramagnetic scattering of neutrons by anhydrous crystals of MnF_2, MnO, and α-ferric oxide, using slow neutron transmission data obtained with velocity spectrometer; dependence of paramagnetic cross section on neutron wave length determined and compared with theoretical form factor; figures; references. Manuscript has been submitted to the Physical Review for possible publication. AECD 2650.

SPACE SIMULATOR, by Victor B. Corey, James H. Green, Jr. and Carl L. Frederick. U. S. Atomic Energy Commission, Oak Ridge, Tenn. Jun 1947. 38p photos, diagrs, drawing, graphs Limited supply mimeo $.20. Also available from U. S. Atomic Energy Commission, Oak Ridge, Tenn. Mimeo: $.20. PB 100688

An investigation of the properties of various types of electrical networks to provide solutions of simultaneous partial differential equations; theoretical discussion of passive and active electrical networks; design description, typical data, and operating results of a one-dimensional model simulator. AECD 2298.

SYMPOSIUM ON RADIOIODINE. Brookhaven National Laboratory, Upton, N. Y. Jul 1948. 118p photos, graphs, tables Limited supply mimeo $.45. Also available from U. S. Atomic Energy Commission, Oak Ridge, Tenn. Mimeo: $.45. PB 100876

Contains 17 papers presented at the symposium and for which separate index cards have been prepared; introduction by Leslie F. Nims; some notes on discussions following presentation of the papers during the physiology and pathology sessions are included. AECU 51. BNL-C-5.

RUBBER AND RUBBER PRODUCTS

EXPERIMENTS RELATING TO THE APPLICATION OF THE CARBON DIOXIDE, ACETIC ACID AND BISULPHITE PRECIPITATION METHODS TO THE MANUFACTURE OF BUNA S FREE FROM LINOLOIC ACID. I. G. Farbenindustrie A. G., Leverkusen, Ger. Oct 1942. 10f graphs (Text in German) Mi $1.25, Enl Pr $2.50. PB 100833

1. Buna S (Trade name) 2. Rubber, Buna - Production - Germany 3. Carbon dioxide - Uses - Germany 4. Acetic acid - Uses - Germany 5. Micro BIOS FD 2396/47, Frames 1-9.

English abstract included.

IGELIT; PLASTICIZERS FOR PLASTICS; POLYVINYL ACETAL; THIOKOL; BUNA; AND MISCELLANEOUS MATTERS PERTAINING TO PLASTICS, EXPECIALLY FOR THE ELECTRO-INDUSTRY. I. G. Farbenindustrie A. G., Schkopau, Ger. 1940-1943. 45f Mi $2.50, Enl Pr $7.50. PB 100843

1. Buna S (Trade name) 2. Buna SS (Trade name) 3. Igelit (Trade name) 4. Rubber, Buna - Thermal softening - Germany 5. Thiokol - Uses - Germany 6. Plexigum - Viscosity - Germany 7. Polyvinyl acetals - Production - Germany 8. Plastics - Plasticizers - Germany 9. Micro BIOS FD 1153/49, Frames 1-42.

English abstract included. Abstract available as PB 100843s. 3p. Mi $1.25, Ph $1.25.

LABORATORY TEST REPORTS ON MIXTURES OF IGELIT PCU (P.V.C.) AND VARIOUS PLASTICIZERS. I. G. Farbenindustrie A. G., Schkopau, Ger. 1941-1944. 153f (Text in German) Mi $6.00, Enl Pr $21.25. PB 100938
1. Igelit PCU (Trade name) 2. Polyvinyl chloride, Unchlorinated - Plasticizers - Germany 3. Micro BIOS FD 2301/47, Frames 1-152.
English abstract included. Abstract available as PB 100938s. 2p. Mi $1.25, Ph $1.25. For later reports see Micro BIOS FD 2302/47, (PB 100827).

MINUTE OF A MEETING OF THE COMMITTEE FOR WIRES AND CABLES IN CONJUNCTION WITH TEKO (COMMITTEE FOR TECHNICAL APPLICATION OF RUBBER). I. G. Farbenindustrie A. G., Schkopau, Ger. 1940. 7f (Text in German) Mi $1.25, Enl Pr $2.50. PB 100842
1. Cables - Insulation - Germany 2. Cables, Rubber insulated - Germany 3. Micro BIOS FD 1151/49, Frames 1-5.
Enclosures mentioned in text are not included. English abstract included. Abstract available as PB 100842s. 2p. Mi $1.25, Ph $1.25.

MINUTES OF CONFERENCE AND NOTES ON BUTADIENE OIL PRODUCTION. I. G. Farbenindustrie A. G., Ludwigshafen, Ger. Nov 1942-Jan 1944. 19f (Text in German) Mi $1.75, Enl Pr $3.75. PB 100765
1. Butadiene - Production - Germany 2. Asfluidol (Trade name) 3. Micro BIOS FD 1329/49, Frames 1-18.
English abstract included. Abstract available as PB 100765s. 1p. Mi $1.25, Ph $1.25.

REPORTS, CORRESPONDENCE AND GRAPHS RELATING TO THE TESTING OF BUNA USED IN THE PRODUCTION OF TYRES. I. G. Farbenindustrie A. G., Schkopau, Ger. 1937-1944. 218f drawings, graphs, tables (Text in German) Mi $7.75, Enl Pr $28.75. PB 100844
1. Buna S3 (Trade name) 2. Rubber, Buna - Tests - Germany 3. Rubber, Synthetic - Tests - Germany 4. Micro BIOS FD 2416/47, Frames 1-187+16.

REPORTS, CORRESPONDENCE AND GRAPHS RELATING TO THE TESTING OF BUNA USED IN THE PRODUCTION OF TYRES. I. G. Farbenindustrie A. G., Schkopau, Ger. 1939-1944. 236f graphs, tables (Text in German) Mi $8.25, Enl Pr $31.25. PB 100845
1. Rubber, Buna - Tests 2. Buna S (Trade name) 3. Micro BIOS FD 2415/47, Frames 1-235.
English abstract included. Abstract available as PB 100845s. 2p. Mi $1.25, Ph $1.25.

REPORTS ON TESTS OF BUNA SAMPLES. I. G. Farbenindustrie A.G., Leverkusen, Ger. 1938-1942. 63f tables (Text in German) Mi $3.00, Enl Pr $10.00. PB 100839
1. Rubber, Buna - Antioxidants - Germany 2. Rubber, Buna - Tests - Germany 3. Micro BIOS FD 4508/47, Frames 1-63.
Some frames will not reproduce well. Abstract available as PB 100839s. 1p. Mi $1.25, Ph $1.25.

REPORTS, MINUTES, TABLES, CORRESPONDENCE RELATING TO ACCELERATORS, STABILISERS AND PROTECTIVE AGENTS IN THE POLYMERISATION OF BUNA S. I. G. Farbenindustrie A. G., Schkopau, Ger. 1939-1942 56f (Text in German)

Mi $2.75, Enl Pr $8.75. PB 100838
1. Buna S (Trade name) 2. Rubber, Buna - Polymerization - Germany 3. Micro BIOS FD 3620/47, Frames 1-55.
Abstract available as PB 100838s. 1p. Mi $1.25, Ph $1.25.

RESEARCH IN THE MANUFACTURE OF BUNA. I. G. Farbenindustrie A. G., Schkopau, Ger. 1940-1944. 27f (Text in German) Mi $2.00, Enl Pr $5.00. PB 100832
1. Buna S (Trade name) 2. Renacit (Trade name) 3. Rubber, Buna - Production - Germany 4. Rubber, Buna - Plasticizers - Germany 5. Micro BIOS FD 2291/47, Frames 1-26.
English abstract included.

RESEARCH ON RUBBER, ORGANISATION OF THE RUBBER INDUSTRY. I. G. Farbenindustrie A. G. 1938-1940. 278f graphs, tables (Text in German) Mi $9.00, Enl Pr $37.50. PB 100825
1. Rubber, Synthetic - Fabrication - Germany 2. Rubber, Synthetic - Production - Germany 3. Rubber, Synthetic - Research - Germany 4. Micro BIOS FD 513/46, Frames 701-977.
For pt. 1 see PB 99182.

ÜBER DIE POLYMERISATION DES BUTADIENS IN EMULSION ZU SYNTHETISCHEM KAUTSCHUK (EMULSION POLYMERIZATION OF BUTADIENE TO SYNTHETIC RUBBER), by Erich Konrad and Wilhelm Becker. I. G. Farbenindustrie A. G., Leverkusen, Ger. n.d. 62f (Text in German) Mi $3.00, Enl Pr $10.00. PB 100840
1. Butadiene - Polymerization - Germany 2. Butadiene - Co-polymerization - Germany 3. Polymerization, Emulsion - Germany 4. Micro BIOS FD 3691/48, Frames 1-58+3.
Summary in English.

VULCANIZING EQUIPMENT, VULCANIZATION PROCESS AND TESTING OF VULCANIZED PRODUCTS. I. G. Farbenindustrie A. G., Schkopau, Ger. 1941-1944. 21f (Text in German) Mi $2.00, Enl Pr $5.00. PB 100841
1. Vulcanizing equipment - Germany 2. Rubber, Buna - Vulcanization - Germany 3. Micro BIOS FD 1152/49, Frames 1-18.

STRUCTURAL ENGINEERING

BUCKLING OF THIN SHEETS. STRUCTURAL REPORT NO. 2, by J. V. Frazier. Ryan Aeronautical Co., San Diego, Calif. Feb 1940. 11p graphs Mi $1.75, Ph $2.50 PB 100387

Design curves are presented for determining the buckling strength of thin sheet sections. The following curves are included: local buckling in bending (all sides simply supported) for 24-ST alclad sections, local buckling of outstanding leg for 24-ST alclad sections, local buckling in shear (all sides simply supported) for 24-ST alclad sections, and local buckling in compression (all sides simply supported) for 24-ST alclad sections. Data pertaining to the curve are presented for each graph. These curves will be of great value in determining the compressive and bending strength of open sections.

COMPRESSION AND BENDING TESTS OF COLUMN SECTIONS, MODEL NO. XP-75 AND P-75, by Sheridan Osborne. General Motors Corp. Fisher Body Detroit Division, Detroit, Mich. Dec 1944. 195f photos, diagrs, graphs Mi $7.00, Enl Pr $26.25. PB 100413

A number of tests of column specimens have been made to determine in each case 1) by axial compression test the column allowable or ultimate load which a column of a given cross section may be expected to carry when attached by riveting in a given manner to a skin panel of given thickness, simulating a particular structural member of the airplane, or 2) by transverse bending test the modulus of rupture in bending of the material used. The tests of each specimen or group of identical test specimens are reported together with cross referencing to facilitate comparisons where this seems immediately desirable. Technical report 273.

DAMP-PROOF COURSES IN PARAPET WALLS. Gt. Brit. Dept. of Scientific and Industrial Research. Building Research Station, Watford, Eng. Oct 1949. 8p diagrs Available from British Information Services, 30 Rockefeller Plaza, New York 20, N. Y. $.05. PB 100368

This digest emphasizes the essential points in the design of parapets. The illustrations have deliberately been made diagrammatic to illustrate the principles which determine the position and form of the dampcourses which should be incorporated in the walls. DSIR BRD 11.

EFFECT OF DRY AND WET EXPOSURE TESTS AT ELEVATED TEMPERATURES ON THE STATIC SHEAR STRENGTH OF REDUX JOINTS, by D. A. Barlow. Gt. Brit. Ministry of Supply. Jan 1948. 18p photos, graphs, tables Mi $1.75, Ph $2.50. PB 100395

Tests were conducted on Redux joints made of 16 G Alclad sheet cemented to D.T.D. 546 and uncoated sheet cemented to D.T.D. 646 to determine the effect of dry and wet exposure. Specimens were subjected to cyclic exposure tests in a dry atmosphere at 90°C, and a damp atmosphere (100% relative humidity) at 70°C. Static shear tests showed a slight drop in properties. Only one instance of corrosion at an actual joint was found, but there was no definite evidence that this was caused by the Redux compound, or that corrosion by moisture penetrating the Redux-metal interface had occurred. Scientific and technical memorandum no. 6/48.

GENERAL SMALL-DEFLECTION THEORY FOR FLAT SANDWICH PLATES, by Charles Libove and S. B. Batdorf. U. S. National Advisory Committee for Aeronautics. 1948. 21p diagrs Available from Supt. of Documents, U. S. Government Printing Office, Washington 25, D. C. $.15. PB 100865

In this theory, which covers all types of flat sandwich construction, a plate is characterized by seven physical constants (five stiffnesses and two Poisson ratios) of which six are independent. Both the energy expression and differential equations are developed. NACA 899.

HOUSE FOUNDATIONS ON SHRINKABLE CLAYS. Gt. Brit. Dept. of Scientific and Industrial Research. Building Research Station, Watford, Eng. Feb 1949, reprinted Jan 1950. 8p photos, map, diagr, graph Available from British Information Services, 30 Rockefeller Plaza, New York 20, N. Y. $.05. PB 100367

The present note discusses the problems of foundations on shrinkable clays in some detail; it indicates the extent of the ground movement involved, points out the effect on buildings with shallow foundations and outlines suitable remedial features. DSIR BRD 3.

INFORMATION OBTAINED DURING AN INTERROGATION OF DR. FEDERN (CARL SCHENCK G.M.B.H.) ON MATTERS CONNECTED WITH VIBRATION AND SHOCK, REPORTED BY A. V. PARKER AND F/LT. J.M.S. ADAMS. BRITISH INTELLIGENCE OBJECTIVES SUB-COMMITTEE. B.I.O.S. TRIP NO. 1140. n.d. 57p photos drawings, graphs Mi $2.75, Ph $7.50. PB 97541

1. Vibration - Research 2. Rütteltisch (Vibration table) 3. Schenck, Carl, G.m.b.H., Darmstadt, Ger. 4. BIOS FR 1856.

NOTES ON DESIGN, CONSTRUCTION, AND EVALUATION OF SHIELDED ROOMS, by Gustavus A. Morgan, Jr. U. S. Naval Research Laboratory, Bellevue, D. C. Dec 1949. 20p diagrs Mimeo: $.50. PB 100752

This report reviews the basic principles of shielding, particularly as applied to shielded rooms, with primary attention to theory and its experimental confirmation. The principal design and constructional defects of shielded rooms are analyzed and common methods for measuring shielded-room performance are described and criticized. A more satisfactory method for locating shielded-room defects is also presented. NRL R 3578.

OUTER PANEL MATCH ANGLE STRENGTH VS RIVET SIZE AND PATTERN, by B. Schlaff. General Motors Corp. Fisher Body Division, Detroit, Mich. Nov 1944. 24p photos, diagrs, graphs, tables Mi $2.00, Ph $3.75. PB 100392

Two aluminum extruded match angles with various size rivets and rivet patterns were investigated to determine their ultimate strength. The load was applied in tension parallel to the longer leg of the extruded angles. The test set-up caused load to enter the match angle through a type of attachment which simulated the outer panel skin and stringers. The results of the tests are summarized in tabular form. Report no. T-330.

PLASTERING ON INSULATING BOARD. Gt. Brit. Dept. of Scientific and Industrial Research. Building Research Station, Watford, Eng. Sep 1949. 6p tables Available from British Information Services, 30 Rockefeller Plaza, New York 20, N. Y. $.05. PB 100365

This paper presents general considerations, methods of fixing and of single and two-coat plastering, and design details. DSIR BRD 10.

SOUND INSULATION IN TRADITIONAL CONSTRUCTION. Gt. Brit. Dept. of Scientific and Industrial Research. Building Research Station, Watford, Eng. n.d. 4p drawings Available from British Information Services, 30 Rockefeller Plaza, New York 20, N. Y. $.10. PB 100899

1. Insulation, Sound - Buildings - Gt. Brit. 2. DSIR BRD 15.

STATISTICAL REPRESENTATION OF FATIGUE FAILURES IN SOLIDS, by Waloddi Weilbull. 1949. 52p graphs, tables Mi $2.75, Ph $7.50. PB 100213

This is an extension of the statistical theory of strength of materials published some ten years ago. The statistical aspects are followed by a chapter about the complete fatigue diagram i.e. the curves giving the relations between the probability of failure, P, the stress, S, and the number of stress cycles, N. The S-N-curves, the P-S-curves, the size effect and the computation of the distribution parameters are discussed. There is an appendix by Bengt Weibull about punched-card methods. Transactions of the Royal Institute of Technology, Stockholm, no. 27, 1949. Acta polytechnica, no. 49, 1949.

STRENGTH OF GLUE JOINTS GLUED WITH COLD SETTING GLUES (MODEL XAT-13), by J. Stevens and J. Muller. Fairchild Engine and Airplane Corp. Fairchild Aircraft Division, Hagerstown, Md. Oct 1941. 26p photos, graphs, tables Mi $2.00, Ph $3.75. PB 100399

Tests were made to determine the strength of glue joints using four different kinds of cold setting glues with consideration given to the influence of setting temperatures and clamping pressures. Tests were made on maple wood specimens in accordance with A.SP.3-152-A for the purpose of determining the maximum shear strength of the glue being tested, and tests were made on specimens of various kinds of wood to determine the shear and tensile strength of glue joints between various wood combinations. In the first series of tests, Casein "Casco" glue, Plaskon resin glue (urea formaldehyde type), Uformite CB550 (powdered form-hardener included), and Uformite 430 with catalyst Z (both in liquid form), were used. In the second series of tests only Casein and Plaskon glue were tested. The results are tabulated and the test procedure is described.

STRESS AND DISTORTION MEASUREMENTS IN A 45° SWEPT BOX BEAM SUBJECTED TO ANTISYMMETRICAL BENDING AND TORSION, by George W. Zender and Richard R. Heldenfels. U. S. National Advisory Committee for Aeronautics. Apr 1950. 28p photo, diagrs, table Mi $2.00, Ph $3.75. PB 100682

Antisymmetrical tip bending and twisting loads were applied to a box beam with 45° sweep and the stress and distortions were measured. The antisymmetrical loading magnified the effects of sweep (a build-up of normal stress and vertical shear stress in the rear spar near the fuselage for a sweptback box beam) previously observed for symmetrical loads. In addition, large shear lag stresses appeared in the carry-through section, particularly in the bending case. NACA TN 2054.

TECHNICAL REPORT ON THE FUNDAMENTAL FACTORS INFLUENCING THE BEHAVIOR OF WELDED STRUCTURES UNDER CONDITIONS OF MULTIAXIAL STRESS AND VARIATIONS OF TEMPERATURE, STRESS CONCENTRATION AND RATES OF STRAIN, by G. Sachs, L. J. Ebert and A. W. Dana. Case Institute of Technology, Cleveland, Ohio. May 1949. 37p photos, diagrs, graphs Mi $2.25, Ph $5.00. PB 100737

A detailed study was made of a low carbon ship plate steel, both "as received" and "as welded", by utilizing hardness tests and eccentric notch bar static tension tests at various temperatures. Considerable non-uniformity was revealed in the plate, that is, localized areas showed relatively high transition temperatures. A brittle-ductle transition zone was found to exist between -40 and -80° F for the investigated steel. NAVSHIPS SSC 24.

X-RAY STRESS MEASURING METHOD, by Goro Ito. Mitsubishi Heavy Industry Co., Ltd. Nagoya Aircraft Mfg. Plant, Nagoya, Japan. Aug 1942. 15p photos, diagrs, graph, table (Text in Japanese) Mi $1.75, Ph $2.50. PB 100217

An investigation was made to study if it is possible to measure one direction stress with one inclined photograph and examine its accuracy. Theoretical observations are discussed using mathematical equations. The accuracy is inferior to the Glocker and Osswald method. It is possible to measure elastic stress on duraluminum material by this method. Research report Ko-2067.

TEXTILES AND TEXTILE PRODUCTS

EFFECT OF NONDURABLE ALUMINUM SALT-WAX EMULSION ON THE WEAR RESISTANCE OF TEXTILES, by Seaman J. Tanenhaus and Mary E. Darby. U. S. Office of the Quartermaster General. Military Planning Division. Research and Development Branch. n.d. 22p graphs, tables Mimeo: $.75. PB 100362
1. Aluminum salts - Uses 2. Coatings, Wax 3. Waxes - Uses 4. Textiles - Wear resistance 5. QMC TSR 36.

EVALUATION OF SYNTHETIC FIBERS AND TEXTILES, GERMAN AND AMERICAN, by R. J. Jokl. Polamold Research Laboratories, Inc., Springfield, Ohio. Jan 1948. 29p tables Mi $2.00, Ph $3.75. PB 100624

A comparison and evaluation is made of German and American synthetic fibers and fabrics of the following types: Nylon, rayon, viscose rayon, cupra amonium rayon, fortisan, rayon finish, vinyl resins, vinylidene chloride, protein, glass, and alginate. Prior to the war, German research and developments generally paralleled that of the United States. In nearly every plant during the war, emphasis was placed on greater production and quality was sacrificed for quantity; substitutes had to be found for critical materials. No interesting technical developments in machinery or processes were observed. However, a German manufacturer's research laboratory had developed an excellent rayon-finish crease-resistant and water-repellant material. An outline of new developments and trends is presented to indicate future possibilities of synthetic fibers and textiles. Contract W 33-038 ac-14214. Report PRL-102-5.

FIBROGRAM: INVESTIGATIONS ON THE INFLUENCE OF FIBRE LENGTH AND ITS DISTRIBUTION, ON THE WORKING PROGRESS IN PAUL'S DRAW FIELD, AND ON THE PROPERTIES OF YARN AND FABRIC, by Stig Löfgren. 1950. 144p photos, diagrs, graphs, tables Mi $5.75, Ph $18.75. PB 100796

Subject material by chapters: (1) survey of previous work, (2) definitions, (3) statistical computations on the fibre movement, (4) silver testing methods used and the control of them (5) drafting under simplified conditions, (6) influence of the setting distance, (7) influence of the draft ratio, (8) influence of drafting on silver thickness distribution, (9) drafting under industrial forms, (10) fibre length distribution and yarn properties, and (11) fibre length distribution and fibre properties. Summary and bibliography attached. Tables and graphs included. Doktorsavhandlingar vid Chalmers Tekniska Högskola, no. 5. Thesis - Chalmers University of Technology, Gothenburg, Sweden.

STRENGTH PROPERTIES OF RAYON-MAT HONEYCOMB CORE MATERIALS, by W. J. Kommers. U. S. National Advisory Committee for Aeronautics. Apr 1950. 15p photos, diagrs, graphs Mi $1.75, Ph $2.00. PB 100859

An investigation was conducted on honeycomb core material of 30- and 45-pound rayon-mat fabrics with contact resin content of each core approximately either 20 or 70 percent of the total weight of the finished core. The tensile strength of higher-resin-content, 45-pound rayon-mat cores having the fiber direction parallel to the axes of the cells was about 40 percent greater than the strength of paper

honeycomb of equal density having the fiber direction perpendicular to the axes of the cells. The values of compressive strength, modulus of elasticity, shear strength, and modulus or rigidity for rayon-mat honeycomb materials were about one-half the corresponding values for the paper honeycomb. Cores with the fiber direction perpendicular to the axes of the cells had lower tensile and compressive strengths, but higher shear strength, than cores having parallel fiber orientation. NACA TN 2084.

STUDY OF SOME FACTORS AFFECTING THE SHRINK-RESISTANCE OF WOOL, SUBMITTED BY THE HARRIS RESEARCH LABORATORIES, WASHINGTON, D. C. U. S. Office of the Quartermaster General. Military Planning Division. Research and Development Branch. May 1949. 38p photos, graphs, tables Mimeo: $1.00. PB 110059

An instrument has been devised which yields reproducible values for the surface friction of wool fibers in either direction in air, water, or any desired medium. With this device, measurements have been made which show the distribution of frictional properties among fibers withdrawn from the same fabric, and which demonstrate the differences in frictional properties found among fibers of various types of wool. The results of a study of the complex reaction between wool and active chlorine have shown that: (1) with increasing times of chlorination, fiber modification increases and strength decreases; (2) with short times of chlorination, fiber modification is relatively unaffected by the pH of the solution for equivalent degrees of shrink-resistance; (3) felt-resistance is remarkably sensitive to chlorine concentration in acid chlorination, but chlorination under the latter conditions is less pH-sensitive than alkaline chlorination; and (4) for a given time and pH of chlorination, the shrink-resistance of fabric is approximately linearly related to the chlorine concentration. QMC TSR 55.

VISIT TO I. G. FARBENINDUSTRIE, DORMAGEN, ON THE SUBJECT OF THE MANUFACTURE OF CUPRAMMONIUM RAYON, BIOS TRIP NR. 3292, 13 MAY 1947, REPORTED by Dr. die Nie. Netherlands Military Mission. Technical Research. May 1947. 3p Mi $1.25, Ph $1.25. PB 100794

The most important features of this process have been described in report CIOS XXXIII-50. This interrogation mainly deals with the question of minor changes made in the spinning machine. TOR 46.

TRANSPORTATION EQUIPMENT

Aeronautics

Aircraft

BASIC DESIGN DATA, CULVER MODEL LARB, U. S. ARMY AIR FORCES TYPE PQ-8A, COMMERCIAL MODEL LARK, PREPARED BY WRIGHT. Culver Aircraft Corp., Wichita, Kansas. Jul 1942. 11p Mi $1.75, Ph $2.50. PB 100401

Basic design data are given for Culver Models LARK and LARB liaison airplanes. These models are a modification of Culver Model L-AR-90. The gross weight has

been increased from 1305-lb to 1475-lb and the engine from a 90 hp Franklin to a 125 hp Lycoming. The data compiled cover weight and balance, general design, symmetrical flying conditions, and the summation of resultant air forces. Report no. 90.

BEEINFLUSSUNG DER ABFANGBEANSPRUCHUNGEN DURCH GESTALTUNG-SMASSNAHMEN UND SICHERHEITSVORRICHTUNGEN (EFFECT OF DESIGN AND REINFORCEMENT MEASURES ON LEVELING OFF STRESS), by Hans W. Kaul. Apr 1937. 7p graphs (Text in German) Mi $1.25, Ph $1.25. PB 100402

The maximum values of leveling-off and emergency pull-up stresses in wings and horizontal stabilizers are computed by approximation methods. These calculations suggest the following constructive measures to avoid excess stresses due to hard pull-ups: increase of static longitudinal stability, reduction of elevator chord depth ratio, decrease of maximum elevator deflection angle, increase in wing-loading and elevator length. A safety device against excess loading is proposed which automatically governs elevator deflection as a function of ram pressure. Reprinted from Luftfahrtforschung, bd. 14, lfg. 4/5,p. 191-195.

BUCKLING OF ALUMINUM ALLOY COLUMNS AND PLATES (MODEL A11 airplanes) by C. R. Smith and H. Langhaar. Consolidated Vultee Aircraft Corp. Fort Worth Division, Ft. Worth, Tex. Mar 1944. 70p diagrs, graphs, tables Mi $3.00, Ph $8.75. PB 100400

Experimental column data are presented for three sets of columns of 24-S aluminum alloy (7/8in. diameter solid rolled rods #30159 extrusions, and 1/4 in. x 1 1/2 in. strips of sheet) in the as-received and various treated conditions. Ultimate column loads and stresses, and compression yield stress for the various column materials, and the stress-strain records of four types of aluminum alloy rod, are given in tabular form. A buckling chart for column buckling of 24-RT and 24-RCT rolled rods, for column buckling and local buckling of 24-S sheets and extrusions in all conditions, and for column buckling only of 24-S alclad formed columns in all conditions, is presented. By means of an adaptation based on the effective-modulus theory, the column data are also used to determine buckling stresses for plates. A buckling chart for the plate buckling of 24-S alclad sheets in all conditions and for column buckling of 24-S alclad flat strips or sheets is included. Report no. SG-984.

COMPARISON OF THE LATERAL CONTROLLABILITY WITH FLAP AND PLUG AILERONS ON A SWEPTBACK-WING MODEL, by Powell M. Lovell, Jr. and Paul P. Stassi. U. S. National Advisory Committee for Aeronautics. May 1950. 19p diagrs, graphs, table Mi $1.75, Ph $2.50. PB 100892

An investigation has been conducted in the Langley free-flight tunnel to determine the lateral control characteristics of a model having step plug ailerons on a 38° sweptback wing with an aspect ratio of 3 and a taper ratio of 0.5. The lateral control characteristics of this model with plug ailerons were compared with those of the same model with flap ailerons, for which the deflection of the flap ailerons was adjusted to give the same static rolling moments as the plug ailerons. Flight tests of the model were made through a range of lift coefficient from 0.6 through the stall. NACA TN 2089.

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(Available for reference thru O. T. S.)

BIOLOGY AND CONTROL OF THE ANT PEST, MONOMORIUM PHARANOIS (L). Gt. Brit. Dept. of Agriculture for Scotland. 1950. 50p photos, graphs, tables. Miscellaneous publication no. 17. PB 100853

CONTACT PROBLEM (KONTAKTPROBLEM) TRANSLATED AND EDITED by Fritjof Andersen Raven, by K. G. Karlson. Mar 1950. 22p. Translated from Teknisk Tidskrift Mekanik I, v. 56, 16 Jan 1926, p. 1-6. PB 100895

IMPACT FLASH PRODUCED BY CALIBER 50 PROJECTILES UPON AIRCRAFT SHEET MATERIALS, by R. L. Kahler. U. S. Naval Research Laboratory, Bellevue, D. C. Jul 1949. 16p photos, graph, tables. NRL F-3499. PB 99224

K OBRAZOVANIU SKACHKOV UPLOTNENIA V DOZVUKOVYKH TECHANIAKH S MESTNYMI SVERKHZVUKOVYMI SKOROSTIAMI. (ON THE FORMATION OF SHOCK WAVES IN SUBSONIC FLOWS WITH LOCAL SUPERSONIC VELOCITIES), by F. I. Frankl. Apr 1950. 8p diagrs. Translation from Prikladnaya matematika i mekhanika, vol. XI, 1947. PB 100721

POLIOMYELITIS; SURVEY OF THE OUTBREAK IN SCOTLAND IN 1947. Gt. Brit. Dept. of Health for Scotland. 1950. 79p tables. PB 100795

PRECAUTIONARY FIRE AND EXPLOSION SAFEGUARDS IN THE USE OF CHLORINE DIOXIDE FOR INDUSTRIAL BLEACHING. National Board of Fire Underwriters. 1949. 23p photos, drawings. Research report no. 7. Miscellaneous pamphlet no. 75. PB 100656

PROJECT CIRRUS, BY VINCENT J. SCHAEFER. QUARTERLY PROGRESS REPORT NO. 10. General Electric Co. Research Laboratory, Schenectady, N. Y. Dec 1949. 10p PB 100912

PROJECT CIRRUS. OCCASIONAL REPORT NO. 15: DISTRIBUTION OF RAINDROPS IN NATURAL RAIN, by Duncan C. Blanchard. General Electric Co. Research Laboratory, Schenectady, N. Y. Nov 1949. 18p photo, graphs, tables PB 100913

PROJECT CIRRUS. OCCASIONAL REPORT NO. 16: USE OF SOOTED SCREENS FOR DETERMINING RAINDROP SIZE AND DISTRIBUTION, by Duncan C. Blanchard. General Electric Co. Research Laboratory, Schenectady, N. Y. Nov 1949. 13p photos, graph PB 100914

PROJECT CIRRUS. OCCASIONAL REPORT NO. 17: EXPERIMENTS WITH WATER DROPS AND THE INTERACTION BETWEEN THEM AT TERMINAL VELOCITY IN AIR, by Duncan C. Blanchard. General Electric Co. Research Laboratory, Schenectady, N. Y. Dec 1949. 33p photos, drawing, graphs PB 100915

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REPORT OF THE BUILDING RESEARCH BOARD, WITH THE REPORT OF THE DIRECTOR OF BUILDING RESEARCH FOR THE YEAR 1948. Gt. Brit. Dept. of Scientific and Industrial Research. Building Research Board. 1949. 66p photos, drawings, graphs PB 100834

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TECHNICAL INFORMATION: MANUFACTURE OF CHLOROPICRIN. Australia. Australian Mission in Japan. Sep 1949. 2p. PB 98961

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TELLITE FOR OXYGEN WANT WARNING SYSTEMS, by J. R. Johnson. U. S. Air Materiel Command. Engineering Division. Aero-Medical Laboratory, Wright Field, Dayton, Ohio. Dec 1949. AAF TSEAA MR 660-118-E. PB 100290

TEST OF MINNESOTA MINING AND MANUFACTURING COMPANY SEALING COMPOUND NO. EC-817, BY FANNING M. BAUMGARDNER. U. S. ARMY. CORPS OF ENGINEERS. ENGINEER RESEARCH AND DEVELOPMENT LABORATORIES, FORT BELVOIR, VA. PROJECT 8-35-03-011 (PDS 398). Dec 1947. 9p photos ERDL R1019. PB 99430

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TESTS OF TRACK TYPE LANDING GEAR FOR THE P-40 AIRPLANE, by Robert C. Dirksen. U. S. Air Materiel Command. Engineering Division. Aircraft Laboratory, Wright Field, Dayton, Ohio. Jan 1947. 7p photos AAF TSEAC MR 9-4528-3-2. PB 99004

TESTS ON A 295 CUBIC INCH CYLINDER, by Edward R. Slaughter. U. S. Air Materiel Command. Engineering Division. Materials Laboratory, Wright Field, Dayton, Ohio. Oct 1949. 2p AAF TSEAM MR 657-138. PB 99621

TESTS ON THOMPSON SELF-SEALING OIL LINE QUICK DISCONNECT COUPLINGS, by A. E. Oshiver, 9 Jan 1945-15 Jun 1946. U. S. Naval Air Material Center. Aeronautical Materials Laboratory, Philadelphia, Pa. Aug 1946. 22f drawings, tables NAM AML 25380. PB 98428

THEORIES ON ENGINE REVOLUTION, by Hisamon Ogawa. Mar 1942. 64p diagrs, graphs (Text in Japanese) Jap/2775. PB 99692

THERMAL INSULATION OF ROCKET OXYGEN TANKS TO PREVENT EVAPORATION LOSS, by R. B. Keusch and H. E. Schmitt. U. S. Air Materiel Command. Engineering Division. Power Plant Laboratory, Wright Field, Dayton, Chio. May 1949. 10p graph. Supersedes AAF TSEPP 524-1889. AAF TSEPP 524-1956. PB 98985

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TOLERANCE OF THE NORMAL RABBIT'S EYE FOR CHLORINE-LIBERATING COMPOUNDS AND THE THERAPEUTIC EFFECTIVENESS OF THESE COMPOUNDS AGAINST HS, by Francis Heed Adler, Irving H. Leopold, Willard H. Steele and Alan S. Crandall. Pennsylvania. University. Department of Ophthalmology. Oct 1942. 4p tables. Contract OEMcmr-9. Report no. 16. PB 99256

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UEBER DIE STILLE VERENTLADUNG IN LUFT VON ATMOSPHAERENDRUCK UND IHRE ANEMOMETRICAL VERWENDUNG (SILENT DARK CURRENT DISCHARGE IN AIR AT ATMOSPHERIC PRESSURE AND ITS ANEMOMENTRICAL APPLICATION), by Wilhelm Fucks. Deutsche Versuchsanstalt für Luftfahrt, E.V., Berlin. Sep 1948. 29p photos, graphs ZWB UM 1205. NRCC ME TT-78. PB 99482

ÜBER R-TRIEBSTOFFE (ON ROCKET FUELS), by Walter Hertel. Deutsche Akademie der Luftfahrtforschung. 1943. 23p photo, graphs, table (Text in German and English) Report 1071-43. Translation by Buffalo Electro-Chemical Co., Inc., Buffalo, N. Y. PB 98723

ÜBER TOLYL-CHROMVERBINDUNGEN (TOLYL CHROMIUM·COMPOUNDS), by Fr. Hein and R. Spaete. Leipzig. Universität. Laboratorium für Angewandte Chemie und Pharmacie. Apr 1924. 23p (Text in German and English) Translation of Chrom-organische verbindungen V, p. 899-908. PB 98706

USE OF POLAROGRAPH FOR CONCENTRATION MEASUREMENTS IN PROTEIN SOLUTIONS. I. ANALYSIS OF THE ALBUMIN-ZINC AND ALBUMIN-MERCURY COMPLEXES, by H. A. Saroff and H. J. Mark. U. S. Naval Medical Research Institute, Bethesda, Md. Sep 1949. 39p graphs, tables NMRI Proj NM 000006 R1. PB 99232

UTILIZATION OF AVAILABLE WORKING TIME OF BITUMINOUS FINISHERS ON BITUMINOUS SURFACING PROJECTS IN EASTERN AND SOUTHERN STATES. Highway Research Board. Committee on Economics of Highway Construction and Maintenance Methods. Jul 1949. 5p tables PB 98512

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VERSUCHE ZUR AUFFINDUNG DER SONNE UNTER AUSNUTZUNG IHRER STRAHLUNG (ULTRAROTEN) MIT FERNAKTINOMETER. (TESTS ON LOCATING THE SUN USING ITS INFRARED RADIATION AND A REMOTE ACTINOMETER). U. S. Camp Evans Signal Laboratory, Belmar, New Jersey. n.d. 20p photos, graphs SIG IS T 147. CESL TL/UK 1447. PB 94641

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WATER SUPPLY STUDY, KAGOSHIMA, JAPAN, PREPARED BY F. S. BLACH FOR THE OFFICE, CHIEF OF ENGINEERS, U. S. ARMY. U. S. Geological Survey. Military Geology Branch. Nov 1949. 7p PB 100228

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XC-123 AIRPLANE, ENGINEERING ACCEPTANCE INSPECTION, by Charles Castellano. U. S. Air Materiel Command. Engineering Division. Aero-Medical Laboratory, Wright Field, Dayton, Chio. Nov 1949. 4p AAF TSEAA MR 456-141 PB 99298

XT-28 AIRPLANE, ENGINEERING ACCEPTANCE INSPECTION, by Robert L. King. U. S. Air Materiel Command. Engineering Division. Aero-Medical Laboratory, Wright Field, Dayton, Ohio. Nov 1949. 3p AAF TSEAA MR 415-142 PB 99297

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	Selenium Rectifiers	Mar 1947
	Translated German Documents, List of	Mar 1948
	Vibrators, Tampers, Pneumatic Tools and Drills	Mar 1947
	Water Supply and Sewage Disposal	Oct 1947

U. S. DEPARTMENT OF COMMERCE
FIELD SERVICE

Albuquerque, N. Mex.
203 W. Gold Ave.

Atlanta 3, Ga.
50 Whitehall St. SW.

Baltimore 2, Md.
103 S. Gay St.

Boston 9, Mass.
1800 Customhouse

Buffalo 3, N. Y.
117 Ellicott St.

Butte, Mont.
14 W. Granite St.

Charleston 3, S. C.
18 Broad St.

Cheyenne, Wyo.
206 Federal Office Bldg.

Chicago 4, Ill.
332 S. Michigan Ave.

Cincinnati 2, Ohio
105 W. Fourth St.

Cleveland 14, Ohio
925 Euclid Ave.

Dallas 2, Tex.
1114 Commerce St.

Denver 2, Colo.
828 Seventeenth St.

Detroit 26, Mich.
230 W. Fort St.

El Paso, Tex.
206 U. S. Courthouse Bldg.

Hartford 1, Conn.
135 High St.

Houston 14, Tex.
602 Federal Office Bldg.

Jacksonville 1, Fla.
311 W. Monroe St.

Kansas City 6, Mo.
911 Walnut St.

Los Angeles 12, Calif.
312 North Spring St.

Louisville 2, Ky.
631 Federal Bldg.

Memphis 3, Tenn.
229 Federal Bldg.

Miami 32, Fla.
36 NE. First St.

Milwaukee 2, Wis.
517 E. Wisconsin Ave.

Minneapolis 1, Minn.
401 Second Ave. South

Mobile 10, Ala.
109-13 St. Joseph St.

New Orleans 12, La.
333 St. Charles Ave.

New York 4, N. Y.
42 Broadway

Oklahoma City 2, Okla.
102 NW. Third St.

Omaha 2, Nebr.
1319 Farnam St.

Philadelphia 6, Pa.
437 Chestnut St.

Phoenix, Ariz.
234 N. Central Ave.

Pittsburgh 19, Pa.
700 Grant St.

Portland 4, Oreg.
520 SW. Morrison St.

Providence 3, R. I.
24 Weybossett St.

Reno, Nev.
118 W. Second St.

Richmond 19, Va.
801 E. Broad St.

St. Louis 1, Mo.
1114 Market St.

Salt Lake City 1, Utah
350 S. Main St.

San Francisco 11, Calif.
555 Battery St.

Savannah, Ga.
125-29 Bull St.

Seattle 4, Wash.
909 First Ave.

For local telephone listing, consult section devoted to U. S. Government